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(Escuela de la Guitarra)

Exposition of Instrumental Theory

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PREFACE

It is generally accepted that the partial, if not the total growth of an individual, is closely related to the basic qualities which make up the human being. Nevertheless, we cannot disregard the student's maturation process, a process which could be either positive or negative and which has a direct bearing on a developing personality. Without a doubt, the very future of the artist will also be a consequence of his or her acquired experience. How important it is, then, that those elements which are considered constructive be well-defined so as to avoid those which are negative or harmful.

The unfolding of the history of the guitar presents us with a wide panorama and an evolution that is logical and progressive. This history is full of virtues and defects, both of which can serve as very important guides: the virtues have laid out a sure path, one which we should follow with determination; the defects, when examined, should arrest our attention in order to discover how not to err in the same way again.

This book tries to answer the complex problems related to instrumental technique and to the recreative process of making music. Both converging towards a single point, these concepts form so intimate and subtle a bond that it is not possible to know where one ends and the other begins. Before this unity could become a reality, however, a learning period is required so that our knowledge might evolve into something alive and musical.

The search for logical solutions to the problems encountered at the outset is bound to be barren if what is at one's disposal is a set of unsophisticated concepts and a lack of sufficient experience. How then are we to obtain the proper orientation that can guide us towards acquiring *maximal results with minimal effort?*

The reconsidering and reworking of the fundamental shortcomings of the traditional guitar school are absolutely essential. I believe that all those students who turn to the guitar with a desire to learn are in need of a guide. Going through life both as my own apprentice and teacher has convinced me of this fact, and has led me to collect material year after year trying to devise a system that could stand on its own.

This book is a testimony of an experience lived over the years. My pupils from different parts of the world (many of them are already fine guitarists) have helped me with their questions—questions similar to those I asked myself during my first developing stage. To them, my thanks, for with them I have learned; and faithful to the pupil in me and the teacher in me, I shall go on learning.

To conclude, I must add that all the work exposed in this book is the result of a series of tutorials given to my distinguished disciple and friend, Alfredo Escande, who generously collaborated in the development and ordering of these chapters.

Abel Carlevaro

FOREWORD BY THE TRANSLATORS

The importance of this book lies in the door that it opens and in the break that it makes with barriers that have made very difficult the possibility of seeing another reality.

We first met Abel Carlevaro in 1975 at the *Rencontres Internationales de Guitare* in Arles, France. Further encounters in France in 1976 and 1977, and in New York and Madrid in 1978, led us finally to an international seminar in Montevideo where we stayed on in order to expand our knowledge of the new school. Through a regular and more intimate contact with the Maestro, our desire to become fully aware of what his creation for the guitar world represents was fulfilled.

Putting the theoretical notions into practice by examining and testing the concepts, strengthened our conviction that this school has a firm foundation, that it is sound and true. Both its development and our assimilation of it are supported by a dual reality, a conceptual one established on theoretical grounds, and an empirical one obtainable through daily inquiry.

There is an urgent need to make this theory known to the guitar world, for it opens a new path that has in addition to a tangible truth, a reality based on strict logic, both with which a unified structure has been constructed. We feel that this thoroughly rational approach to the art of guitar playing is not only important but that it represents an indispensable stepping stone for the guitarist of today.

When Carlevaro expressed a strong desire that we personally take charge of a translation of his book into English, we embarked on the work with great enthusiasm. After analyzing the text in detail and consulting frequently with the author, and especially after having been tutored in this method by Abel Carlevaro himself, we became convinced that we could offer the English reading guitar world a translation, faithful both in text and spirit.

The work has not only presented us with a further opportunity to delve even more profoundly into the concepts, it has also given us a great deal of joy. Our sincerest thanks go to the Maestro for having made our task possible.

Jihad Azkoul
Bartolomé Díaz

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CHAPTER I

PLACEMENT OF THE GUITAR

A. **BODY POSITION**
   How to Sit

B. **HOW TO HOLD THE INSTRUMENT**
   1. Placing and Balancing the Guitar
   2. Stability
   3. Points of Contact

C. **BODY MOVEMENTS**

A. BODY POSITION

The basic problem faced by the beginner is always linked to the *balance of the instrument* in relation to his body. He and the guitar must create a *stimulating and anatomical complex* that not only avoids a strenuous posture but also facilitates instrumental technique. Holding and stabilizing the guitar *without hindering body and left arm movements* must be the starting point for developing a guitaristic school.

A guitar wrongly placed, or a defective attitude in the manner of sitting, will immediately generate difficulty in the action of the fingers as well as hamper their freely evolving mechanical capacity. Besides, in due time, a variety of aching sensations may develop, particularly in the shoulder and back. If the guitar is placed in a way that obliges the right shoulder to make any unnecessary effort (e.g., by coming out of its natural position and moving forward when placing the right arm over the upper side of the guitar), a back pain will develop in just a few hours due to the uncomfortable and anti-anatomical position adopted.

The guitar must accommodate itself to the body, not the body to the guitar. The instrument must remain still and firm and yet allow the body to move when required by some action of the arm or the hand. In this way, movements can be executed *without affecting the balance of the instrument.* Flexibility—and by no means rigidity—should be the outstanding feature of a player's position, which can be individualized only after he (or she) has taken into account his (or her) own anatomical characteristics.

As a prior step to any other consideration, close attention should be paid to body position and the stability of the instrument. One should, therefore,

a. refuse to adopt a position that inhibits free execution (anatomical and relaxed attitude), and
b. make possible the use of free and docile movements that can respond to the performer's artistic demands.

How To Sit

When a person sits placing both feet forward (left foot resting on a stool), *the effort required to maintain the body in equilibrium is taken over completely by the back.* Now, if this forced state were suddenly to be freed from its tension the body would tilt backwards. We shall define this situation as *Unstable Equilibrium,* which is only attainable through the application of a constant effort.

The first step to be taken so as to avoid efforts that could prove harmful is, of course, finding what shall be called *Stable Equilibrium*—a mechanical condition in which the body can stabilize itself on a supporting platform (the chair) and be as neutral as the pointer on a beam balance. The neutral state can be attained by using the feet as *motor elements,* one towards the front, the other towards the back. These two motor elements provide for body balance and allow for mobility: *balance,* because the positioning of the feet can determine the presence or absence of stable equilibrium that is necessary for relaxed playing; and *mobility,* because the body (trunk) will be able to move backward and forward as desired, depending on the pressure applied to one foot or the other. The action is transformed into one as natural as walking.

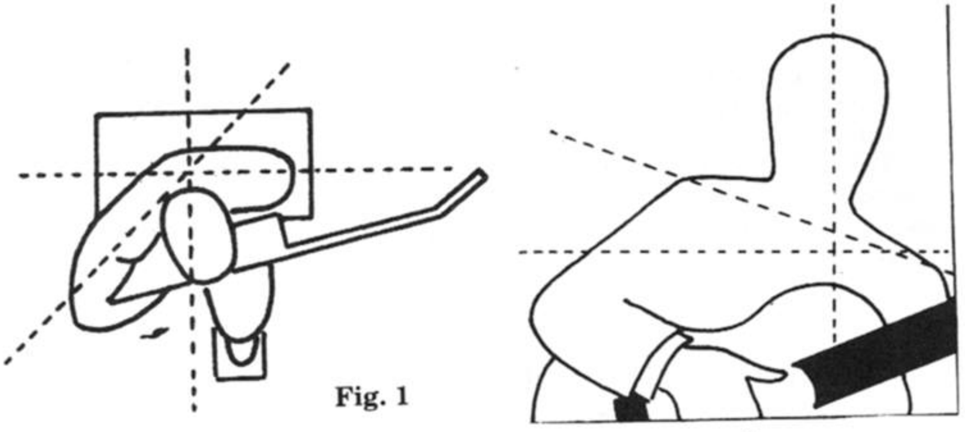

Fig. 1

a b

Consequently, the instrument, leaning on the left leg should be bevelled in relation to the body, with the upper side close to the right breast and the guitar neck pointing outwards (Fig. 2). The two drawings in Fig. 3 illustrate incorrect ways of sitting.

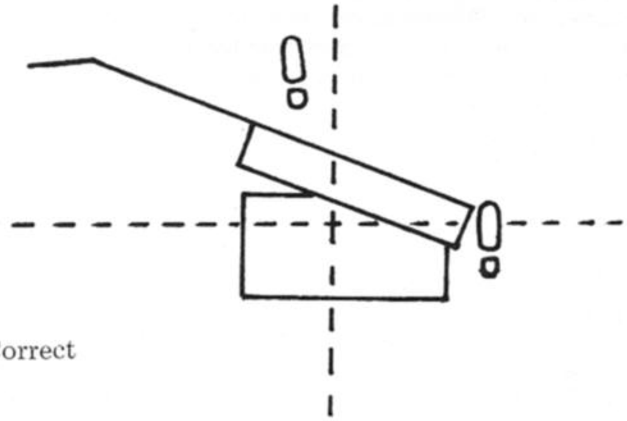

Fig. 2 Correct

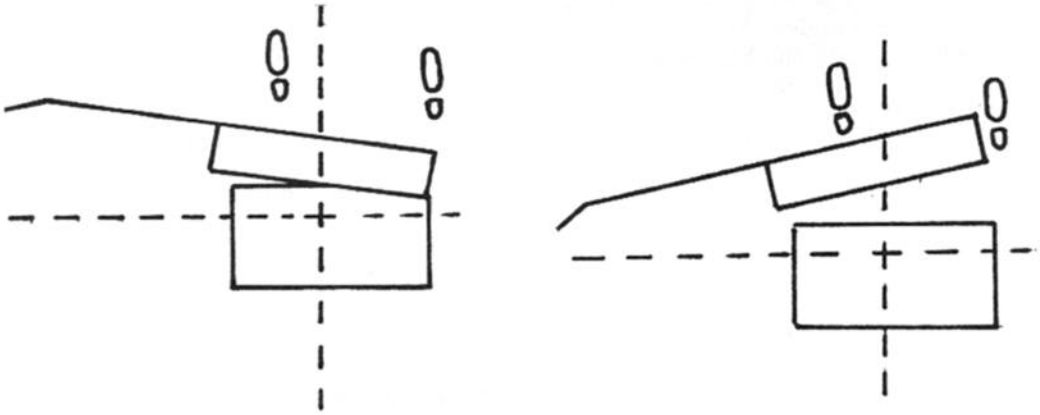

Fig. 3 Incorrect

Since the left foot must rest on a stool in front of the chair, the right foot should be placed on the floor slightly *behind the performer* to create a balancing mechanism in which the backward effect of the left foot could be cancelled.*

Taking into account the above facts, it should be clear that both sitting position and the placing of the instrument *should form a "whole" that works both for males and females*. There is no sense in dividing playing position according to sex.

B. HOW TO HOLD THE INSTRUMENT

1. Placing and Balancing the Guitar

Only after the guitarist has found a position that is based on the concept of Stable Equilibrium is he prepared to consider how to place the instrument. The guitar must accommodate itself to the human body without altering this equilibrium, and without interfering with the performer's freedom of movement. At the same time, the placing of the instrument should comply with a series of prerequisites that a good performance dictates. The criteria used in determining just how the guitar is to be placed should be of a generic and conceptual nature. They should under no condition be taken rigidly but rather as *flexible and adjustable* elements that are adaptable to the physical characteristics of each individual.

A bad guitar position can harm the guitarist and, consequently, his music. The performer would have to adopt a defective physical attitude incompatible with his anatomy, and one very likely to impoverish his technique and musical expression.

Correct placement of the instrument would allow for the greatest freedom of movement in both low and high registers. *The left arm should be totally free* and able to move in order to aid the hand and the fingers in every way. At this point, it may be mentioned that the efficiency of the fingers is *always* dependent on the attitude of the arm and is *never* an isolated event. Every movement derives from some other and only through a complete understanding and control of the "motor complex" would one be able to attain the best results.

The body should be able to move without hindrance, forward and toward the left (as shall be seen), so as to put even the highest register of the fingerboard within easy reach of the hand. The right shoulder should not be forced forward (Fig. 1a) or upward (Fig. 1b) in order to set the arm over the upper part of the guitar.

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* If one sits in a normal fashion, i.e., in the center of the chair, the front right leg of the chair could interfere with the free movement of one's right foot or leg. (Logically this statement refers only to common four-legged ones and not to one-legged stools and other variants). The guitarist should sit, therefore, on the forward right corner so as not to impede the movements of the right leg and foot.

The right-hand fingers must perform perpendicularly to the strings since gliding along them is very likely to produce noises that would detract from the music. To obtain a perpendicularity of attack, the wrist need not be curved in an exaggerated form; instead, one should search for the ideal inclination of the guitar, raising and lowering it, rotating it between both legs, adjusting it until the fingers can effect the most efficient stroke as naturally as possible.

2. Stability

Involuntary and unforeseen movements of the guitar will disorient the performer and detract from his attention. Thus, the instrument should remain motionless even when the body moves due to technical or musical demands. This does not mean that the guitar must never be moved: it may become necessary to adjust its position during the course of a performance, but these movements must always be voluntary—marrying, so to speak, guitarist and instrument. Unexpected and surprising movements must at all cost be avoided.

Controlled stability of the guitar is a result of body balance (correct sitting posture) on the one hand, and of establishing logical contact points with the instrument on the other.

3. Points of Contact

The guitar has five contact points in relation to the body. *In order of importance these are:* (a) the left leg, (b) the right leg, (c) the right arm, (d) the left hand, and (e) the right side of the body (and never the left).

The first four are *active contact points* and through them the instrument can be firmly held. The fifth contact point is *passive* or neutral, i.e., it does not participate in holding the instrument. Just *three* active points of contact, however, are necessary to maintain and control the stability of the guitar.

a. *Left Leg*

This contact point has the following characteristics.

- i) Basic element in holding the guitar.
- ii) Firmest contact point (all the rest are movable).
- iii) As a consequence, a reference point for all body movements.
- iv) *Central and stable contact point* coming ahead of and related to all the other contact points.

Given the bevelled position, the curvature of the lower side of the guitar could prove somewhat awkward when trying to accommodate it to the left leg. The problem of imbalance that may arise could be overcome by using a cushion (Fig. 4) that not only helps mold the shape of the guitar to the leg, but also prevents the instrument from eventually sliding.*

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* The first objective is attained by making the cushion out of sponge, the second by using a slip-free material (e.g., latex) for its upper side (i.e., the part that would touch the guitar).

b. *Right Leg*

Only after the guitar has been placed on the left leg should the right one be brought into play. This is done by allowing the right thigh to come into natural contact with the flat surface of the side of the guitar rather than merely to touch the corner of it (i.e., where the back meets the side), and should result in effective balance and control while maintaining the bevelled position.

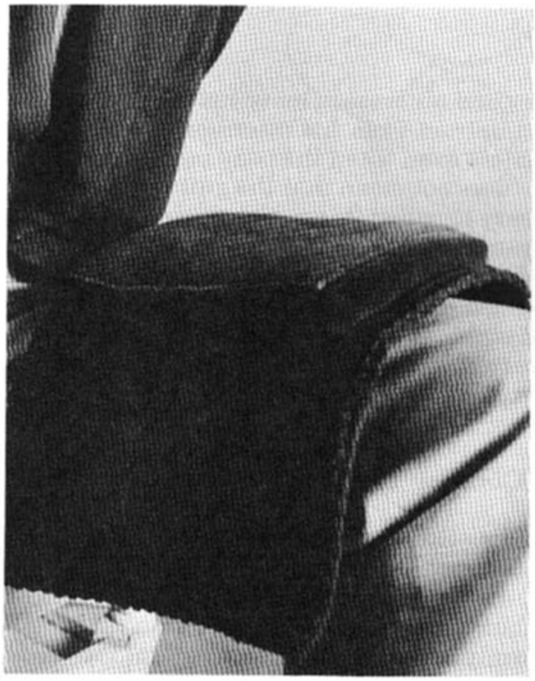


Fig. 4

c. *Right Arm*

The right arm should rest over the upper side of the guitar letting its own weight contribute to balancing the instrument (see Chapter II).

d. *Left Hand*

There are a number of situations (to be mentioned later) in which the right arm must be lifted—it is in these cases that the left hand becomes the third essential contact point with the guitar (neck).

e. *Right Side of the Body*

The body as a contact point plays a totally neutral and passive role and does not belong to the group of three contact points essential for balancing the instrument. Still, it is imperative to remember that the natural contact with the guitar is always against the right and *never* against the left side of the chest. *Placing the left side of the chest against the guitar must be considered defective* because it could harmfully force the right shoulder forward. *One should, therefore, avoid this from the very beginning.*

The fifth (neutral) contact point is established when the guitarist himself moves forward in performing attitude, and not because the guitar is made to lean against him.

The sequence of events in placing the guitar can be summarized as follows:

1. Place the guitar over the left leg (with the cushion) taking into account its bevelled position relative to the body.
2. At the same time, separate the right leg moving it backwards so that nothing obstructs the instrument from the very beginning.
3. Bring the right leg well into contact with the side of the guitar in the manner described above.
4. Place the necessary contact point, the right arm, by resting it over the upper side of the guitar as in Fig. 5.

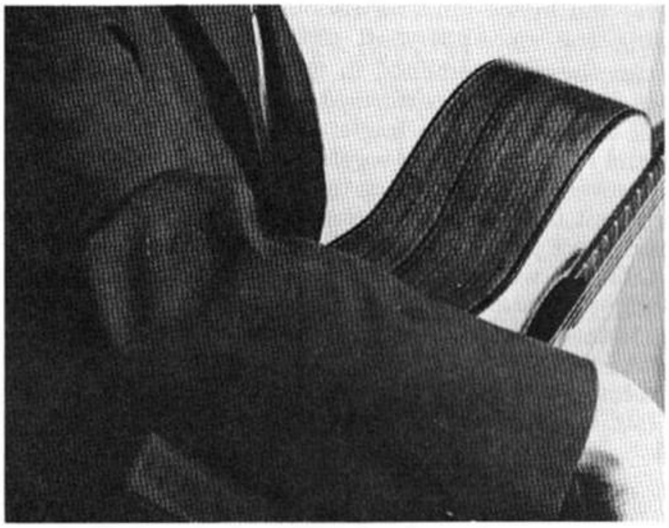


Fig. 5

N. B. Listed here are some of the more common, but by no means exclusive, situations which do not require a fixed contact point for the right arm.

(1) Certain harmonics performed with the right hand: the contact point is moved or the whole arm is freed.
(2) Pizzicatos (some).
(3) Muted or dampened sounds (exceptionally).
(4) Dynamic resources that require arm movement.
(5) Some strokes of the thumb along the six strings in arpeggiated chords (with or without contact point).
(6) Exceptional transversal displacements of the other fingers, from first to sixth string or vice versa.
(7) Certain thumb strokes that require "*fijación*" (fixation).
(8) Non-traditional tone colors and percussive effects employed in contemporary music.

C. BODY MOVEMENTS
(Without Affecting the Instrument's Balance)

Movements of the body are necessary when certain technical demands are placed on the left hand and arm. Most of these displacements have their origin in and are controlled by both feet as *motor elements.* Each foot is then a lever which uses the ground like a platform in order to transmit a force that will directly act on the movements of the body. *The body itself need not make any effort whatsoever.*

When left-forward movements of the body are required, the right foot comes into action. (This foot, incidentally, should be quite *free to move.*) Contrary body motion is executed by applying slight pressure to the left foot which is *stationary* (on a stool); in this way the trunk can return to its original position.

The use of the vertebral column as the only motor element is counterproductive, and hence must be discouraged. In addition to being harmful, bending the spine forward obstructs mechanical freedom.

How can these movements, in which the trunk and the guitar are sometimes separated, be performed while maintaining instrument balance at all times? Were the angle formed by the right elbow to remain constant and rigid, the guitar would be dragged with the body whenever the latter moved backward. Once the concept of governing the stability of the instrument is fully grasped (i.e., that there are three necessary and sufficient contact points), and the function of the right arm is understood (i.e., that its own weight keeps the guitar steady), all that remains is to *allow the right elbow to vary its angle graciously when required* and thereby acquiesce to the movements of the body. In this way, the guitar can remain in its desired place, unaffected by the displacements discussed.

It is recommended that these operations be worked upon separately until a fair amount of dexterity in the movements of the body is achieved.

CHAPTER II

RIGHT ARM

A. FUNCTIONS

B. CONTACT POINT

C. RIGHT HAND DISPLACEMENT

D. RIGHT HAND ATTITUDE

A. FUNCTIONS

The right arm has *two well-defined and clearly differentiated functions* that must form a harmonious unit. It is true that there may be occasions when each function acts separately; in general, however, they work as a combined system, and *never* should the specialized mechanism which characterizes one of them be allowed to interfere with that of the other. This double function of the arm involves certain subtleties that are essential for the guitarist to understand and assimilate completely.

The *principle function* of the right arm is in its role as a contact point: a great deal of the stability of the instrument depends on it. Any part of the arm touching almost any section of the upper side of the guitar should be able to hold it in place.

The *other function* directly relates to the unit it creates with the hand, a unit that is vital and that depends on its *location* for responding effectively to each and every demand of the fingers. It follows that just where this point of contact between arm and guitar is made must be variable since it will determine the precise placement of the hand and fingers. It is for this reason that there cannot exist one single point since the arm may have to be displaced for the purpose of transferring the fingers to their precise spot. It can be said to be performing *passively* when it is used to displace the hand, and *actively* when in its more competent capacity it serves specific ends (for producing radical dynamic changes, percussive effects, etc.).

These two functions clearly differ, but they should complement each other in order to converge in a unit that favors the net mechanism of the hand.

B. CONTACT POINT

In determining not only where along the upper side of the guitar the arm is to rest, but also that part of the right arm which is to come into contact with the instrument, one has to take into consideration the following.

1. The fingers must always attack the strings *perpendicularly* so as to avoid the friction and scraping that could jeopardize obtaining a perfect sound.
2. The hand must be *displaceable* so that the fingers need not have to stretch to reach the strings with precision. There is an area of action in which each finger is capable of producing its maximum output—if this range is overcome by stretching, the capacity of the finger tends to diminish.

What are the conditions that favor the most effective action of the fingers? Firstly, there is their *location* and secondly, there is the attack in itself, determined by the muscle or muscles used. However, this second condition is always subordinate to the first: careful placement will assure that after striking, the trajectory of the finger will not interfere with an adjacent string.

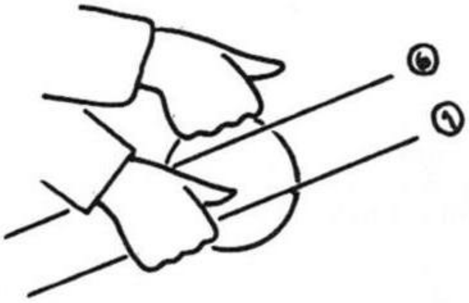


Fig. 1

Placement of the finger is thus determined by the mobility of the right hand. As a visual reference point, the knuckle line (not the finger tips, which are movable elements) should be able to surpass both the sixth and first strings when the hand is moved up and down (Fig. 1).

It is somewhere between the elbow and the wrist that the arm has its contact point, the location of which *need not be affected* in order to displace the hand from the first to the sixth string and back.

The point or section of the upper side on which the arm should rest can be located near the imaginary upward extension of the bridge, taking into account that the fingers, in their natural contraction, attack the strings perpendicularly. If, however, this point is moved to the right, as in Fig. 2, the attack becomes slanted and the fingers will slide on the strings owing to their oblique trajectory.

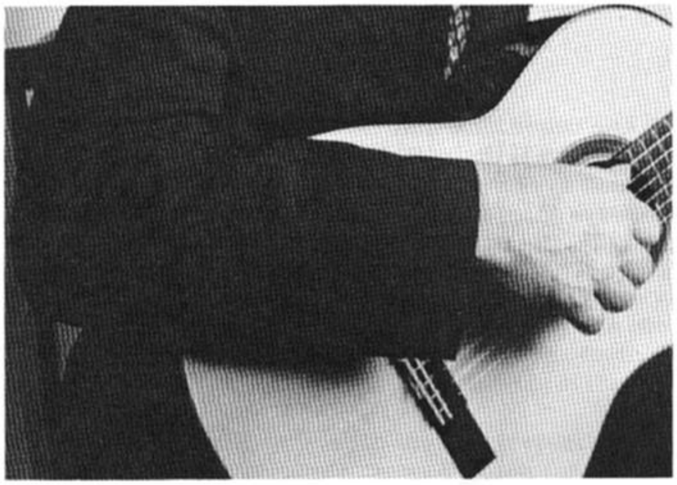
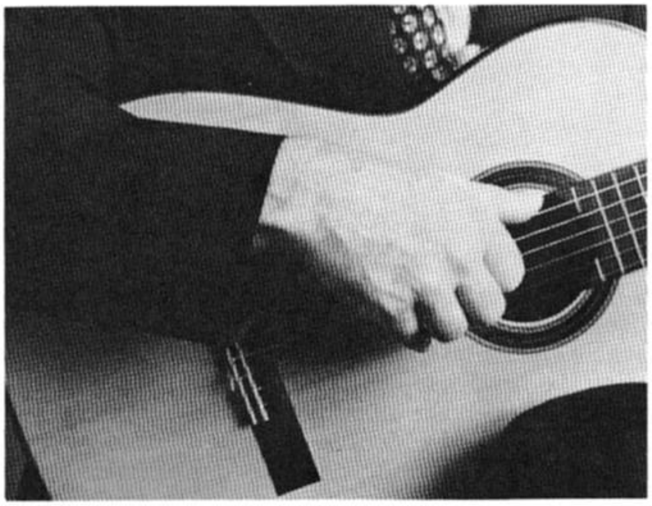


Fig. 2

N. B. The arm might be naturally and correctly placed with respect to the shoulder yet incorrectly placed in relation to the strings. As a consequence, the thumb in its trajectory is very likely to interfere with the index finger (Fig. 3).



C. RIGHT HAND DISPLACEMENT

Fig. 3

In this case, the guitarist must understand that the problem lies in just how the instrument is placed; once the position is corrected—by lifting the neck slightly and adjusting the right leg to the new situation—the strings may be struck in a perpendicular fashion (Fig. 4).

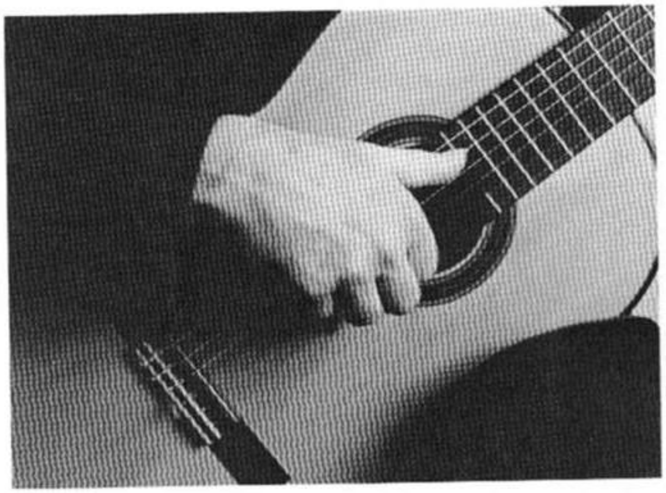


Fig. 4

Now it can be seen that the complex is satisfactory in all of its parts and that the mistake was due to the incorrect placement of the guitar, not to a wrong position of the arm. When one of the factors that makes up this harmonious complex is disturbed, the rest is also likely to be affected.

The correct placement of the right hand and a perpendicular stroke on the strings by the fingers will be achieved by interacting three different elements: point on the arm that touches the guitar, point on the upper side on which the arm rests, and the degree of inclination of the instrument. These elements should be combined in the way that best suits each guitarist.

The right hand can be displaced in three different ways, and each way permits the fingers to be positioned comfortably so that they need not stretch to reach the required string. The first two maintain the *contact point of the arm* and correspond to what shall be called "Natural Position," while the third refers to the cases in which the contact point either has to change or can be done away with altogether.

NATURAL POSITION (N.P.) shall be defined as the situation in which the right arm is employed not only as an active element in balance (contact point), but also as an important factor in hand and finger technique. These two features should form a unified structure in which neither of them is permitted to interfere with the other. The effective performing region of the right hand corresponding to the N.P. is situated around the soundhole and comprises an area limited by the natural reach of the hand and subject to the aforementioned contact point.

1. Displacement Type One

The arm remains equidistant to the soundboard as it is displaced over it, describing part of a circle which has its center at the contact point between the arm and the upper side. Taking this point (and not the elbow) as the axis, the arm is transformed into a lever of the first kind to displace the hand from the first to the sixth string and back.

To make sure that the fingers always strike the strings perpendicularly, the lateral angle formed at the wrist must be adjusted as the hand moves towards the bass strings: this angle becomes more pronounced as the forearm tends towards parallelism with the strings (see Figs. 5 and 6).

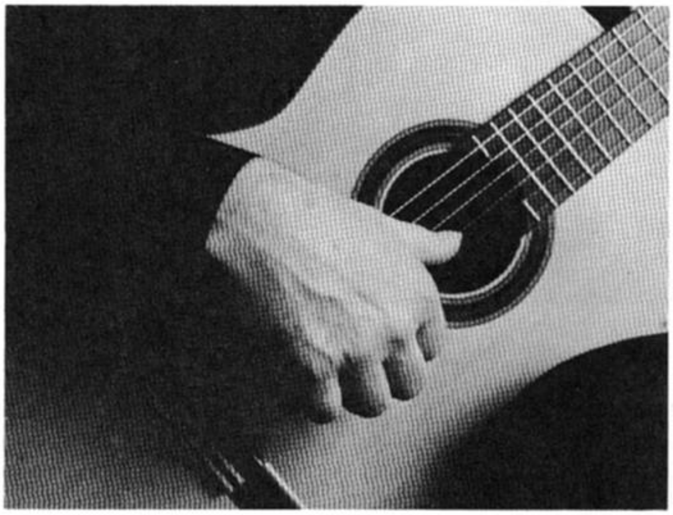


Fig. 5 (1st string)

If this adjustment of the wrist were not made, the attack would become slanted, the fingers producing undesired noises as they scrape against the bass strings.

What has been said applies to the index, middle, and annular (ring) fingers which perform in their natural contraction; the perpendicularity of attack by the thumb is not affected by this hand displacement.

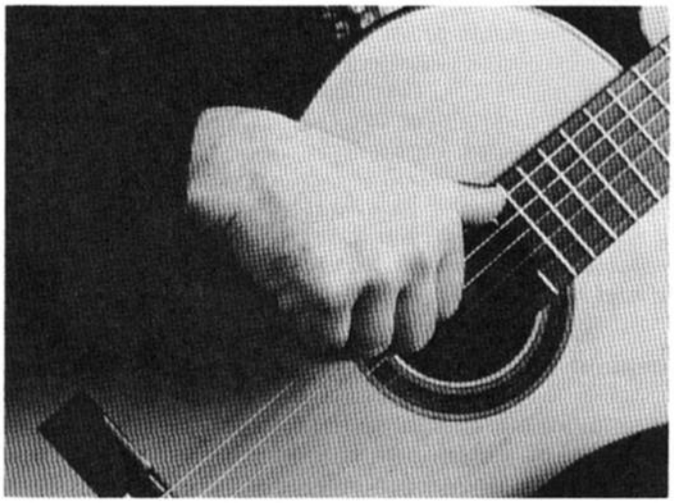


Fig. 6 (6th string)

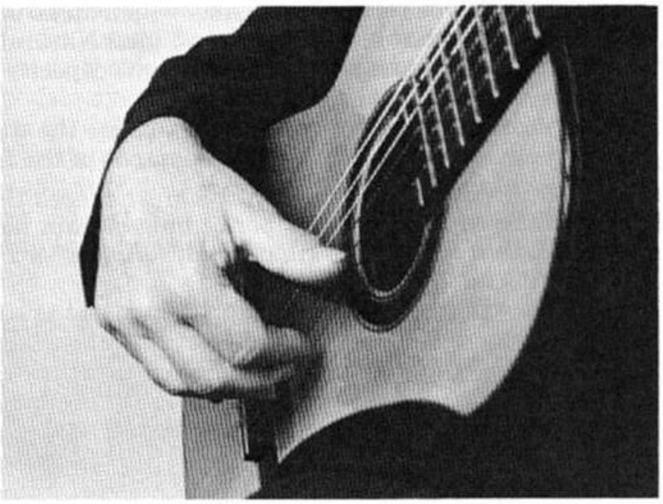


Fig. 7

2. Displacement Type Two

The hand describes a line perpendicular to the strings *without requiring the arm to slide over the side of the instrument.* It can be seen that the wrist will move away from the soundboard without affecting the contact point of the arm; for this, it would have to fold inward, changing the angle formed by the palm and the inner part of the forearm. As the hand travels from the first to the sixth string, the fingers approach the basses without difficulty (see Figs. 7 and 8).

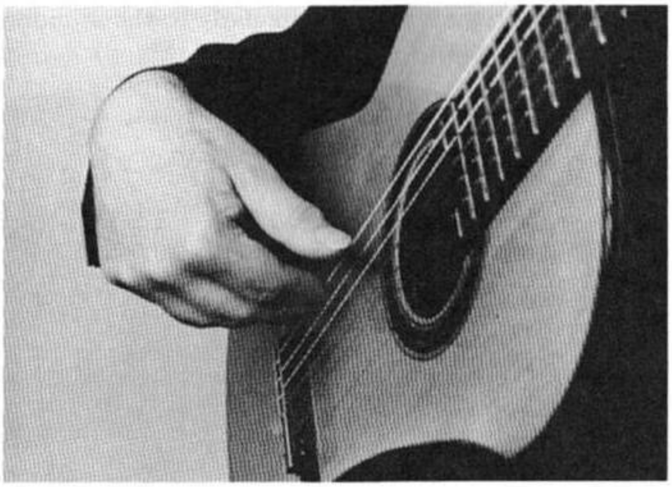


Fig. 8

3. Displacement Type Three

Situations in which the contact point is not employed (as mentioned in Chapter I) require that the arm *temporarily* change or even abandon contact altogether. The motor mechanism linking the arm, hand, and fingers should function as a harmonious complex that has its outlet in the fingers. The arm should be conditioned to the hand, and the hand to the fingers. In the first two types of displacement—which make use of a fixed contact point, a situation that has been referred to as Natural Position—the double role of the arm, in its mechanics and in its capacity to keep the instrument stable, functions as an integrated unit.

The third type of displacement varies or abolishes the contact point and is governed entirely by the mechanical demands of the fingers:

a. when R.H. (right hand) movements *must exceed* the range corresponding to N.P., e.g., for performing certain harmonics at the twelfth fret with the right hand; *sulla tastiera* or *sul ponticello* effects.

b. when the arm itself becomes directly involved as a performing element through the use of different kinds of fijación:[*] as required by special cases of dynamics (*ff* attacks), articulation (staccato), percussion effects (*tambora*), different timbres, and contemporary sound effects, to name but a few.

D. RIGHT HAND ATTITUDE

The most convenient attitude that the right hand can take when it is presented to the strings is one of repose, one free from any stiffness. It should be slightly concave, with the knuckle line somewhat parallel to the soundboard. When the hand is held in this proper attitude, the fingers can perform to their fullest capacity (from the point of view of intensity, timbre, and rhythmic precision) in total freedom and without obstructing one another.

As the most natural way to strike the strings is perpendicularly, the first problem that arises relates to the most advantageous use of the thumb. If the thumbnail were allowed to grow unrestricted,[**] the guitarist would be obliged to distort his R.H. position—the thumb, drawn into the palm and presented perpendicularly to the soundboard, would interfere with the activity of the other fingers (Fig. 9).

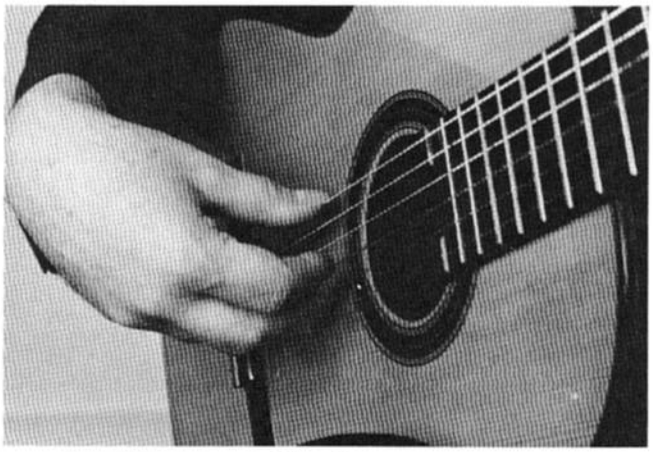


Fig. 9

All the same, separation alone of the thumb is *insufficient.*

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[*] A Spanish term literally meaning "fixation" which will be defined and discussed thoroughly in Chapter III.

[**] See Chapter IV, Section D.

The path along which each finger moves must be free from any interference; as index, middle, and annular perform in the same direction (one opposite to that of the thumb), it is very unlikely for them to get in each other's way. The thumb, however, could be obstructed if it were allowed to act within the range of the other fingers: positioning it perpendicularly to the soundboard has, therefore, to be rejected. The best way to assure a clear course for the thumb would be to separate it laterally (Fig. 10) so that is could be activated at its base by its *muscular aggregate* (a concept that will be duscussed in Chapter IV).

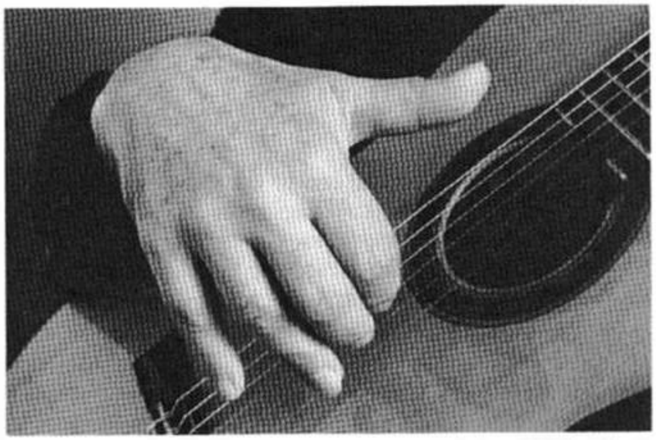


Fig. 10 (with lifted thumb)

With the thumb lifted away from the strings, the stroke becomes slanted and creates an annoying sound caused by the friction against the string.

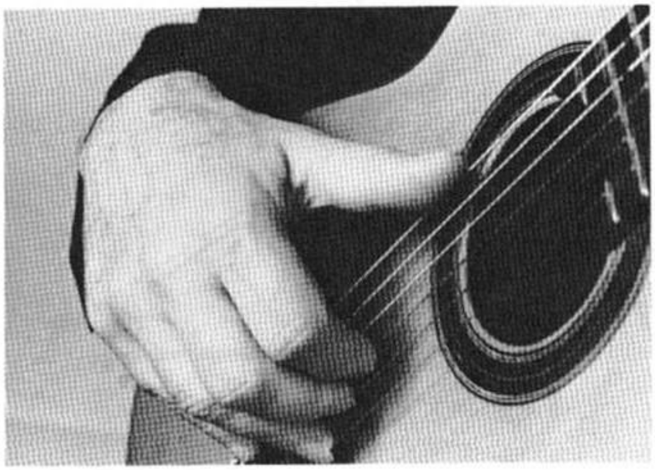


Fig. 11

An alternative would be to bring down the whole palm, allowing the thumb to reach the required string each time it has to perform.

In the first case, a defective sound is produced, while in the second, the hand unnecessarily loses control. (There are situations, no doubt, in which the hand moves to assist the thumb; but they are justified by *more important and clearly defined* motives related to the use of the arm by *fijación,* a concept already mentioned and to be defined later.)

The thumb, separated laterally, should be presented to the string with a slight inclination of the hand, and carried to its precise position until it makes contact with the string. It is in this way that the problems mentioned above can be avoided (Fig. 11).

The index and middle fingers should be slightly curved so that this tilting of the hand will not affect the annular's ability to reach the string.

In this manner, the hand is in its N.P. and is ready to perform because:

1. The thumb can play laterally on the basses (and even on the third, second, and first strings exceptionally), without encountering any obstacles whatsoever.
2. Index and middle fingers may also perform freely without hampering or being hampered by the thumb.
3. The annular, the "singing" finger which often carries the soprano voice, takes on a slightly straighter attitude allowing for better sonority as shall be seen in the chapter that deals with *toques,* the different types of strokes available to the right hand.

The guitarist must by all means avoid "dropping" the hand to the right side (i.e., towards the little finger) as this action would force the annular to bend and thereby restrict its mobility. By closely examining Fig. 12 and especially by attempting the task oneself, it can be discovered that the free movement of the thumb becomes impaired and that the annular produces an annoying and disagreeable sound, one completely lacking in quality.

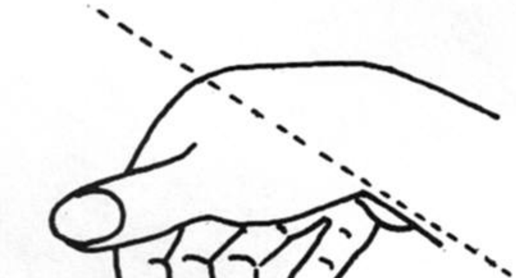


Fig. 12

CHAPTER III

THE GUITARIST AND HIS TOTAL DEVELOPMENT

A. TECHNIQUE AT THE SERVICE OF ART

B. WHAT IS SIMPLE DERIVES FROM AN INTELLIGENTLY COMBINED COMPLEX

C. MUSCULAR FATIGUE

D. FIJACIÓN

E. LOGICAL SOLUTIONS AND HARD WORK: MUTUALLY EXCLUSIVE? THE NOTION OF RELAXATION

F. SOME SITUATIONS THAT REQUIRE FIJACIÓN

A. TECHNIQUE AT THE SERVICE OF ART

One of the major concerns in mastering an instrument has always been *technique*. Rather than being a mere outcome of the activity of the fingers, technique should be conceived as a process that is under the complete control of the voluntary system of the cerebrum: it should never be an unmeditated state.

There is one thing that has to be learned: the trade; but there is something else that is our very own and that no one can teach us.

A performer is always faced with two problems. One concerns the purely mechanical difficulties contained within a musical work, the other the interpretative and expressive aspects of the music. It is highly advisable to tackle the latter problem first, for the artistic domain should be entered from the very beginning. Is it conceivable to plunge into a piece before knowing what is to be expressed? This is a point that should never be lost sight of since without it would come the risk of distorting the very nature of art. Were the trade, in its literal sense ever to become the main goal, the outcome would be devoid of art itself.

It is a fact that a performer could never be a great interpreter without a solid technique. Nevertheless, the starting point is what counts: that which comes from the spirit goes to the spirit; all other things belong to the laboratory. The mere player basically differs from the true performer in that he orients himself primarily around the mechanics of playing and keeps apart from everything else in order to highlight his digital juggling (which he treats as if it were a precious gift) and gives his technique personality, autonomy and value, characteristics that clearly do not pertain to it. Through this power of which he is proud, he hopes to obtain the desired traits of the virtuoso.

It can even be asked, What purpose would a technique that requires so much sacrifice serve? What possible justification could such hypertrophy have? It is absurd to pretend to be making music this way. With technique as the main goal, void of all else, art can be only dehumanized. Beware of that monster! Once created, it must be tamed and made to serve the pure values of art, for otherwise, only the contrary and irreversible effects would be obtained.

Spirit and substance are two forces that must be joined in the creation of art. In this way, substance would become somewhat spiritual and the spirit would somehow take on material form. Art pertains to the realm of the soul, and technique belongs to that of reason. Through the happy union of these two elements is born an artistic manifestation, a real symbiosis created by man.

B. WHAT IS SIMPLE DERIVES FROM AN INTELLIGENTLY COMBINED COMPLEX

The gradual acquisition of mechanical ability, or technique per se, has to be linked to various stages of development during a specific period of study. At first, the different elements are studied in isolation as though they were the only objective to be attained. At a more advanced stage, all the isolated elements can then be related to form a proper technique, a genuine mechanism.

From each movement is born every other: without complete knowledge and mastery of the motor complex, the total acquisition of these movements is not possible, and it would be useless to pretend otherwise. Each activity of the fingers is made up of a number of different movements that work together in association and converge in order to culminate in one precise action. In other words, a simple activity as such does not exist; rather it should be thought of as a complex from which the mind intelligently selects the combinations which will be used.

Total mastery is the result of controlling individual elements, and making correct use of it depends on the choice of the different combinations. This means then that technique must be responsive to conscious work that is thoroughly effected, and that other concepts relating to natural aptitude or, worse yet, to chance should be rejected.

Analysis in itself, along with the aid of a developed and defined logic with respect to the movements to be made, must not in any way be construed as an attack upon our intuitive impulses. In fact, the Emotional and the Subjective come fully alive, just as they should, when analysis is allowed to serve as a firm platform for the free expression of emotion.

Let us bear in mind that real work is done only when isolated exercises are prepared in advance and that the outcome is positive and effective when these are properly put together. Speed and freedom of movements, or professional ease and dexterity, are engendered in all that has been said. The combination, the correct interrelationship between different actions, will give us in the end the perfection and precision we seek.

In the first phase, in order to overcome a given difficulty, it is important to divide and isolate the different components and to work on them separately. Once this stage has been assimilated, a correct execution would consist of *the sum total* of every simple and partial movement submissively responding to the stimuli sent out by the brain.

Upon reaching a higher stage of development, simple movements as such no longer exist. It should be added, however, that these movements may *appear* at first sight to be simple, but that in reality EACH APPARENTLY SIMPLE MOVEMENT IS THE RESULT OF THE INTELLIGENT COMBINATION OF SEVERAL PARTIAL MOVEMENTS OF ITS COMPONENTS.

From this we can conclude that *the mechanism employed and the mental representation of what is to be effected have a direct bearing on the precision of each movement.*

Intelligent use of the different elements of the motor complex (arm-hand-fingers), and the active (direct) or passive (indirect) participation of these elements through exact *fijación* (see below) at a determined moment and place, lead to precision in instrumental execution. As such, PRECISION IS DIRECTLY RELATED TO THE LOGICAL AND REASONED BASIS FOR EVERY MOVEMENT AND FIJACIÓN PERFORMED.

C. MUSCULAR FATIGUE

Consider the following. The accumulation of useless hours of machine-like and unintelligent work; the lack of a theoretical foundation from which to choose the appropriate mechanism; the almost exclusive employment of the fingers for each determined end while ignoring strong and more capable elements; the erroneous but fashionable belief that the main factor in the education of the student can be measured by the number of study hours--all these are counter productive and inevitably lead to *general and muscular fatigue.* In the long run, *negative habits* will develop, habits that can turn into an almost insurmountable barrier that would stand in the way of the redevelopment of the well-intentioned instrumentalist. *A negative habit can be defeated and abolished only through the employment of another constructive, but opposed and stronger habit, one capable of undoing the old one.*

In what corresponds directly to instrumental technique, it can be said that work in which the mind does not participate actively *should be considered harmful and noxious* for the real development of the technical faculties.

Taken as a habit, the chronic repetition of automated mechanical defects in a passage containing technical difficulties would develop into a vice that requires an obstinate and useless increase in the amount of work. Besides the unfortunately insufficient improvement, the inevitable consequence of this approach will be exhaustion and general fatigue. What is lacking is a *knowledge* of how to arrange every movement intelligently, allowing the superior will of the mind to determine the means of action that can comply with the principle of *maximum results through minimum effort.*

It must be understood that general and muscular fatigue cannot be attenuated solely through repetition which is not impelled by a purpose that guides all of the movements, and that THE ISOLATED WORK OF THE FINGERS IS THE MAIN CAUSE OF MUSCULAR FATIGUE.

The selective and conscious use of *fijación* can yield a radical change that eliminates gratuitous and useless fatigue and that transforms the difficult into the easy and the impossible into the completely feasible. The resultant eloquence comes from the use of a technique that works on the interest and not on the capital of one's maximum resources.

D. FIJACIÓN

Fijación (a Spanish term literally meaning *fixation)* will be defined as the VOLUNTARY AND MOMENTARY NULLIFICATION OR IMMOBILITY of one or more articulations for the purpose of allowing stronger and more capable elements to perform in a particular way. *Fijacion is,* therefore, *a voluntary act which controls a specific articulation and temporarily cancels it in order to permit a movement or a force to be transmitted through it. In this way, the articulation can function as a bond or a bridge.*

Depending on the dynamic level, timbre, speed requirements, or any other performing nuance, it is through *fijación* that stronger muscles that are called upon will be of service. The work of the fingers could thus be taken over by the hand, the wrist or the arm; *this mechanism applies, of course, to the activity of both hands.*

It must be pointed out that nullifying an articulation *never implies a state of rigidity*. Furthermore, *fijación* must not only begin just when necessary, but must stop immediately when its need has terminated, with the articulation in question resuming its flexibility and readiness for any other mechanical demands.

E. LOGICAL SOLUTIONS AND HARD WORK: MUTUALLY EXCLUSIVE? THE NOTION OF RELAXATION

For his complete development, the guitarist must have a *concrete and conscious attitude towards his instrument* (THEORY) *and a correct digito-mechanical formation* (TECHNIQUE). Theory is a premeditated mental attitude based on reasoning while technique is the application of that theory. Correct playing is the result of appropriately combining these two over a period of time.

Tiredness or muscular fatigue cannot be reduced, and even less made to disappear, by working daily and repeatedly on an exercise *when the real cause of this fatigue lies in the defective use of technique, and if what is lacking is the awareness of the various movements and their associations that can be made through fijación*.

One of the precious faculties of a true performer is *knowing how to select his movements.* SELECTION IS THE MARK OF THE CREATOR, a faculty that *belongs to the mind*, and the hands are those external elements at the disposal of the guitarist.

Fatigue is most efficiently avoided by knowing how to employ stronger, fitter elements for each determined goal. That is to say, that when a finger cannot perform a certain movement or movements naturally and with ease, *fijación* must be voluntarily called upon in order to delegate a component of the hand-arm complex to do it. This is why it is indispensable for all the parts of the motor complex to be completely trained. TRAINING OF THE FINGERS CANNOT BE CONSIDERED COMPLETE WITHOUT THAT OF THE HAND, WRIST AND ARM.

Although every action culminates at the fingertips, very often it does not have its origin in the finger itself; rather, the impulse is momentarily allowed to come from somewhere else. It is in these moments that the fingers execute a function similar to that of the nails: they act *passively* and are directed by other elements.

GENUINE STUDY TAKES PLACE DURING SHORT INTERVALS AND IN MOMENTS OF GREAT MENTAL CONCENTRATION. Its value should be measured by the level of concentration that correct playing requires and never by the number of hours employed. Not only might fatigue and exhaustion serve as a good indication that cramming is unsuitable, but it is clear that a reservoir of energy is necessary for much of the technical work to be done.

This is how to avoid the unconscious and automated development of skills, and to do away with the absurdity of repeating, with inappropriate means, the same parts or passages of a piece. The choice of the correct movement has to be made intelligently so that the various skills could be performed without unnecessary muscular contractions.

The intelligent use of fijaciõn permits those muscles which are not working to relax. By way of example, consider the lifting of a pencil with the hand. The hand, being capable of raising a considerably heavier weight than that of the pencil, can do this while completely relaxed, because here the potential (hand) is much greater than the resistance (pencil). What would happen, however, if now we were to lift the heaviest weight the hand could manage, i.e., if the potential and the resistance were equalized? The state of relaxation would be eliminated because we would be thus exerting the maximum tension on the muscles and thereby inviting fatigue. Just the same, we could recover that state if, through the necessary *fijación*, we were to add the strength of the arm to that of the hand.

It seems, therefore, that relaxation is linked to *stimulating work* in which the muscles put into play *only a part* of their potential for any given task. Every muscle can be said to own a "capital" that must be carefully safeguarded so that what is used is solely the "interest" from it. It is here that lies the importance of *fijación*—the concept by which fitter muscles can be used to avoid excessive labor.

As useless muscular contractions must be considered unsound and energy-wasting, it is indispensable to eliminate them from all exercises and skills. It is then prudent first to meditate on and select the various movements and *fijacións* to be employed. Each repetition of false and mistaken movements hinders all freedom and eloquence, exacts a worthless increase in one's work, and greatly decreases the likelihood of acquiring mastery. One should, therefore, work towards MAXIMUM EFFICIENCY THROUGH MINIMUM EFFORT, the elimination of hypertrofied automatism, and the assembling and converting of Technique into what can be labelled PROFESSIONAL MEMORY.

The repeating of a particular movement will generate in time a *muscular memory analogous to this movement.* Repetition develops into habit which in turn induces and coordinates the functioning of the same task. Little by little, it retreats from the direct and constant act of intelligence, of the conscious, in order to become a reflex conditioned by a memory impulse (engram) that conducts forthcoming tasks. This impulse *can be either negative or positive* depending on whether the movements that were originally performed in a mentally conscious form, and that were later repeated until their total assimilation, were erroneous or not.

It is when the correct approach is used that constructive logic serves as an aid. Each movement is related to the one before and to the one after in a way that is coherent and that is directly dominated by the thought process, which is actually the coordinator of the motor mechanism. The freedom in one's movements, and even speed, are then forthrightly obtainable through the understanding and application of the preceeding notions; the interrelationship between movements proceeds naturally and logically.

If the whole mechanical part of technique consists of the sum of each isolated movement, and if each attitude of the fingers also corresponds to some parallel mental image, it can therefore be stated that TECHNIQUE IS, IN THE FINAL ANALYSIS, A SERIES OF MENTAL ASSOCIATIONS, a training of the mind that will rule all the impulses and movements of the fingers, as well as a total coordination and identification that can respond to the voluntary process as a direct propellant and principle motor element.

The sense of security gained from the education of the mind, this voluntary struggle towards mastery of technique, leads to a state of *mental relaxation.* The guitarist who is aware that his knowledge level is below that exacted by the music he wishes to play must put himself in a state of excessive mental strain in order to compensate for what he cannot understand and assimilate. In this particular case mental relaxation could not exist. If it is to emerge naturally, his mental command must be greater than the demands of the musical work.

We can now affirm that relaxation has to function on two parallel levels, one physical, the other mental, and that both of these develop, in the end, through a process of understanding and over a period of time.

It is convenient to pause at this point and consider the fact that both types of relaxation, the easing of both muscular and mental tension, are effected *voluntarily*. A passive state of relaxation, such as exists in sleep, is inconceivable, for what is needed is a state of vigilance in which mental activity is constant.

Relaxation can be said to be a state at one and the same time *permanent and intermittent*. The permanency comes from the fact that there will always be muscles that are in repose, for it is primordial that those that are not needed be relaxing. It is intermittent because, depending on the requirements during playing, the relaxing muscles will be in permutation. What is being dealt with here is *partial* relaxation—complete loosening of muscles would imply inactivity—during which a muscle can be isolated and slackened while others are being activated. It is a guided repose that would last for as long as the mechanical requirements allow; and regardless of its brevity, whatever relaxation could be gained would be of utmost importance. The muscles that do not participate actively in the attack of notes must be isolated from the others, inasmuch as that is possible, so as to maintain them in a state of rest.

There is, therefore, the vast possibility of always working with fresh and relaxed muscles that are not molested by permanent tension; in any other way, the constant effort would invariably lead to a state of rigidity. Incidentally, if we were to add up all those intermittent and tiny moments of rest in every active part of the motor complex, the total would appear rather awesome and, if viewed from outside their musical context; even peculiar and almost inconceivable. These brief moments, however, are unnoticeable because they are below our auditory and visual thresholds.

It is to be understood that only through time does the gradual acquisition of muscular control offer the possibility of momentarily inhibiting the activity of certain sections of the motor complex, while the remainder continues to be at work. So it is that in the learning process the first step involves knowing how to *perform* a given task; it is on a later and more professional level that one should be capable of *suppressing* the functioning of certain muscles for the purpose of relaxing them during short intervals.

F. SOME SITUATIONS THAT REQUIRE FIJACIÓN

Without biasing the indispensable analysis to be treated later, here follows a short and simple, though by no means exhaustive, list of some of the situations which require the use of *fijación*:

(1) Right hand strokes (*toques*) related to dynamics. (*Fijación* of one or more phalanges.)
(2) *ff* strokes with the thumb. (Action from the wrist via thumb in *Fijación*.)
(3) Right hand strokes for bright tonal coloring. (Angular *fijación* of the last phalange.)
(4) Right hand: fast repeated chords. (Action from the wrist via fingers in *fijación*.)
(5) Fast and repeated thumb strokes. (*Fijación* of the thumb.)
(6) Effects of color. (Certain pizzicatos, *tambora,* hissing effects, etc.)
(7) Presentation changes of the left hand. (Movements of the arm transmitted directly to the hand via *fijación* of the wrist.)
(8) Longitudinal and transversal displacement of the left hand. (*Fijación* of the wrist to allow the arm to perform.)
(9) Some slurs and trills.
(10) Restful attitude of the fingers (when removed from the fingerboard.)
(11) Contractions and distentions.

and any instance that requires the participation of other more appropriate elements for a given task.

CHAPTER IV

RIGHT HAND—PART I
THE THUMB

A. CONCEPTION AND PRODUCTION OF SOUND

B. ACTION OF THE THUMB

C. THE TWO STROKES

D. NAIL STROKE OF THE THUMB AND CONTOUR OF THE FINGERNAILS

E. THE USEFULNESS AND APPLICATION OF "FIJACIÓN"

F. ATTACK: INITIATING AND RESTRAINING MOMENTUM

G. TWIN-STROKE OF THE THUMB ("TOQUE DOBLE")

H. PIZZICATO AND MUTE (SORDINO)

A. CONCEPTION AND PRODUCTION OF SOUND

Sound is the most direct manifestation of an interpreter's personality; through his sound the artist can be recognized. However, the expression of something so personal requires that the instrumentalist reach an advanced level of development, one only obtained by passing through several phases of study, and constructed by taking full advantage of his physical and mental makeup.

This concept of sound is said to correspond to an advanced development level because, to arrive at controlling the attack of notes, it is necessary first to enhance in a conscious way the functional capabilities of the hand in terms of its strength and its speed. Without this preliminary stage, the acquisition of an elaborate sound, docile and completely malleable to the performer's intentions, is not possible. Having to be intimately related to a given musical conception, sound cannot be something rigid and immutable: it should be capable of molding itself to the spirit of the music. The use of *several types of strokes* permits that whichever sound quality is felt appropriate be available when desired.

When considered in isolation, the act of emitting a single sound on the guitar does not pose any particular problem. Being the mere result of plucking a string, it can be produced by a great artist as well as by a beginner and thus, from a purely musical point of view, is of no great interest. In itself, it expresses nothing, just as the colors of the rainbow as such have no expressive value in the visual arts. It is what man makes of the elements at hand that can create artistic interest; through their succession and interrelationships, each isolated note, which is craving to be ordered in time, takes on artistic value.

The study of sonority requires a rather comprehensive mastery of the fingers, one in which complete muscular control could permit the precise attack to blend with musical thought. The guitar is rich in beautiful and subtle qualities of timbre, possessing an expressive nature that can compare with a miniature orchestra, a fact of which, incidentally, Berlioz was well aware.

The conception of the attack or the stroke must exist *before* it is produced; in other words, the sound must be *prepared* prior to its emission. The intensity and quality must be measured beforehand in order to extract the expressive virtues contained in the guitar.

It would be a shame to allow the privileged aspect of this noble instrument, this orchestra in miniature, to remain unexploited. It can lend the appropriate timbre to each phrase, endowing it with color in a way not unlike that of an instrument chosen specifically for fulfilling the function of the music. This orchestral capacity must be considered as a complementing factor to the significant role of the guitar as a plucked instrument: two distinct aspects which together blend harmoniously to create a whole.

All this would remain in the realm of theory if the essential precondition of a well developed ear is non-existent, for the production of a sonority responsive to the most subtle nuances would not be possible without the indispensable ability *to hear* oneself. Granted that it is difficult to be both performer and audience at the same time, one must nevertheless learn to develop this double aspect of the interpreter's personality. Only this sensibility to detail and refinement in perception can lead to the true control of sound conception. Many guitarists are unaware of the auditory reality of their interpretations, not because of an intrinsic lack of ability but rather because in this part of their training their ear has been neglected.

To make up for this lack, what is therefore necessary, in addition to a solid mechanical formation, is a constant and rigorous *training of the ear*. He who has made the effort to be attentive enough to distinguish the different qualities within a group of notes played simultaneously is going to be more quickly prepared for this new stage. As most students tend to hear more in generalities than in the particular, their attention to detail is often blurred. Details (which are as numerous as the notes in the music to be played) are brought fully to life only when they are incorporated in a piece as consciously studied elements. *Imagination* which is required for this work, is of extreme importance since it guides technical development; in conjunction with *systematically logical study*, it serves to order the whole cohesively.

Sonority is given birth through the convergence of a series of factors, the most important of which are the following: the liberated imagination and its creative processes, intelligent study that orders creativity, the experience acquired (through time) that develops conditioned responses and muscular memory, and innate disposition. They can be seen culminating in the materialization of sound through the various strokes of the right hand along with their very subtle combinations. Now that it can be concretized, Berlioz's intuition has become reality.

As it is the right hand (save rare exceptions) that generates sound, the working of each finger will be presented as it functions in isolation as well as in combination with the others. The guitarist who possesses a truly solid technique has in his right hand the exceptional means which could offer him a series of sonorities that would lead him to his musical self-realization.

B. ACTION OF THE THUMB

The thumb must be able to move in complete freedom, never interfering with the movements of the other fingers. As it acts in a direction opposite to them, it has to be placed laterally (as was explained in Chapter II) with the thumbnail shaped such that it would not catch on the string (see below, section D).

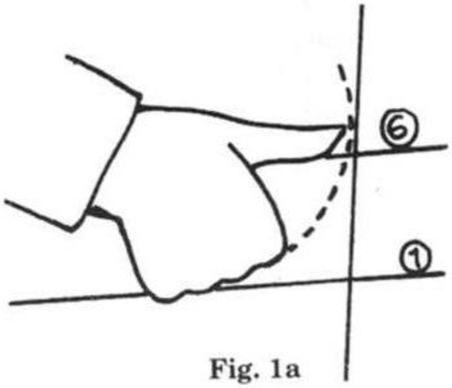


Fig. 1a

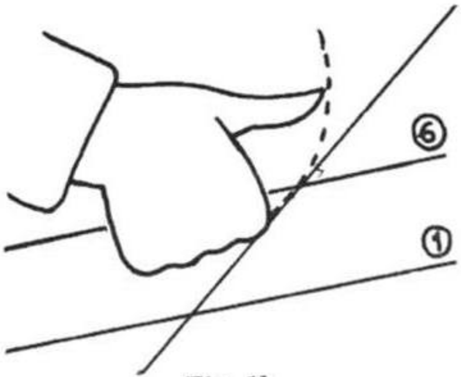


Fig. 1b

The thumb is apparently the clumsiest of the fingers and thus requires special study and care; however, as the strongest of them, it is necessary to develop it to its fullest.

In its trajectory of attack across a string, the thumb sweeps a sector of an imaginary circle whose center is at its base (at the point of articulation with the wrist). The arc formed by its tip can be approximated to a straight line which virtually overlaps with the tangent at the point of contact with the string. For optimum results, this tangent should be perpendicular to the string (Fig. 1a). If, however, the thumb were to be moved away (Fig. 1b), the arc would make its contact such that the tangent at this point would no longer be perpendicular but rather oblique. Sliding on the string, it would produce unwanted noises.

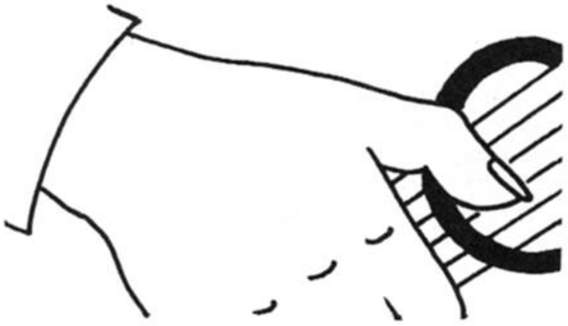


Fig. 2

The thumb must not function by flexing one or both of its joints (Fig. 2); instead, the movement should originate *at its base* and through *fijación* make use of its *muscular aggregate.* It is in this way that **the greatest amount of power, flexibility, and freedom of movement can be achieved, clearly surpassing the potential of either or both phalanges.**

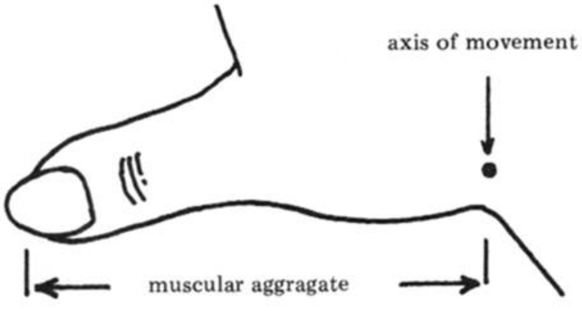


Fig. 3

The thumb derives its strength from the employment of its MUSCULAR AGGREGATE, *a concept which refers to the use of the totality of its muscles* (Fig. 3). Its freedom and dexterity are made possible when the thumb is considered in its entirety, bearing in mind that *fijación* can help to increase speed as well as dynamic level.

C. THE TWO STROKES

There are two different fundamental strokes, each depending on that part of the thumb that strikes the string: one stroke using the *flesh* and another using the *nail*.

When the right hand is presented in its *natural* form as has been defined in Chapter II, the thumb usually strikes with the flesh. Notwithstanding, it can also be made to play with the nail which, as shall be seen, depends on how it is presented to the string.

After it performs, as described above, from its base (i.e., applying *fijación* to both its joints), the string will be oscillating in the same direction to that of the stroke, in a way similar to the string of a bow after the arrow is released. The direction of the oscillation must be controlled so as not to provoke a slapping of the string against the fingerboard. In other words, the attack should be made in a direction parallel to the soundboard since an oblique or perpendicular stroke might induce buzzing from the frets.

Choosing between flesh and nail depends, on the one hand, on the mechanical favorableness of each: speed and freedom of movement as well as dynamics are enhanced by the nail stroke. On the other, the choice is intimately related to the nature of the sound desired.

There is not one single flesh stroke, just as there is not one single stroke with the nail. The flesh contains a charming opaqueness that, with a firm and decided muscular aggregate against the string, can very often emit on the bass strings (and even on the 3rd string) a sound evoking the character of the French horn. The flesh is also capable of playing the role of the bassoon which, because of its color and gracefulness, is often found used in well-articulated passages as well as in those full of melodic skips. It is important to make clear that what is being treated here does not consist of an imitation, but rather of a sound that is authentic to the guitar and completely valid from an artistic standpoint.

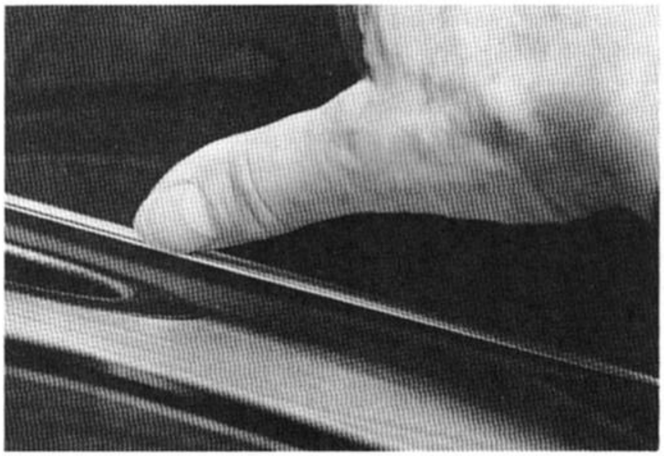
Furthermore, in its capacity to produce a *legato* effect, the flesh can, instead of relying exclusively on differences in dynamic level (a rather limited possibility when used in isolation), be contrasted to the other moving voices produced by the fingers. Parts can be highlighted and neatly distinguished one from the other because of the resultant differences in sound color. (This will be further developed in the following chapter.) Shortly, when the *sordino* and *pizzicato* are discussed, as well as the *twin-stroke* (flesh-nail) it will be seen that the great many possibilities of the thumb are still untapped; indeed, some are even, strangely enough, unexplored.

D. NAIL STROKE OF THE THUMB AND CONTOUR OF THE FINGERNAILS

It has already been stated that the thumb must perform laterally; the nail should be filed in a way that prevents it from catching on the string. The left side of the nail must be shaped with an appropriate file and afterwards be polished with fine emery paper. Correct trimming of the nail is a delicate affair, and only time and daily experience can help the guitarist find the most adequate shape, one which will enhance whatever way he chooses to use it. He should be guided by the fact that the contact of his nail wiith the string must always be tangential.

The thumb generally strikes with the flesh so the nail has to be *presented* to the string whenever it is to be used. This would therefore *always require that the hand be presented in anticipation*, turning it slightly toward the left until the nail is in a condition to strike the string directly. Fig. 4 shows the nail in contact with the sixth string.

Fig. 4



As the thumb is made to go towards the first string, contact between the nail and the string will also be displaced along the edge of the nail towards, but never reaching, its summit. This way of using the nail, with its point of contact changing (to the extent of a few millimeters), is nothing but a consequence of the small turn that the hand makes in order to present it to the different strings.

The contact point, nail-string, must always be tangential. The left side of the nail is thought of as a sector of a circle with a long radius, a sector that is virtually a straight line (Fig. 5).

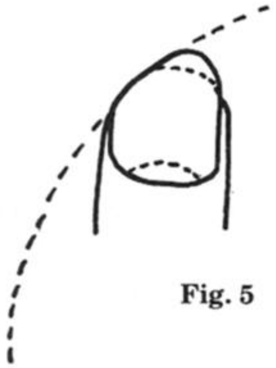


Fig. 5

Were the nail to be shaped with its curvature much more pronounced (i.e., as if belonging to a much smaller circle), the stroke would be obstructed when the nail catches on the string (Fig. 6).

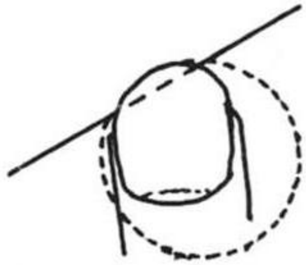


Fig. 6

However, with the nail correctly shaped, the stroke could always be tangential to the string.

As the participating segment of the thumbnail is its left side, the rest of it, i.e., its right side (which has no direct contact with the string), need not be considered at all.

With respect to the nails of the other fingers, *i, m,* and *a,* it can be observed that when allowed to lengthen naturally, their shape almost always has the following cross section (Fig. 7).

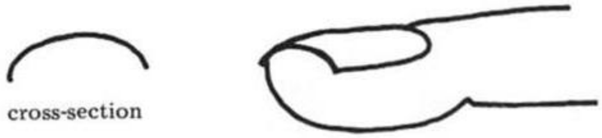


Fig. 7

If the string were to be struck by a nail shaped in this way, two points of contact between nail and string would appear, producing a noticeable ambiguity in the tone, one that is lacking in clarity (Fig. 8).

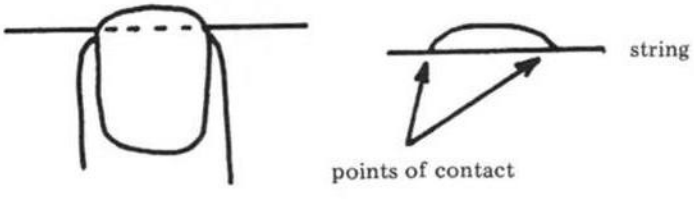


Fig. 8

A file can be used to level the nail and give it *only one point of contact;* the borders should be done in a way that eliminates the possibility of touching at two separate points. It must be realized that this point of contact is empirically not a point but rather a *limited zone of contact* with which a better sonority is possible (Fig. 9).

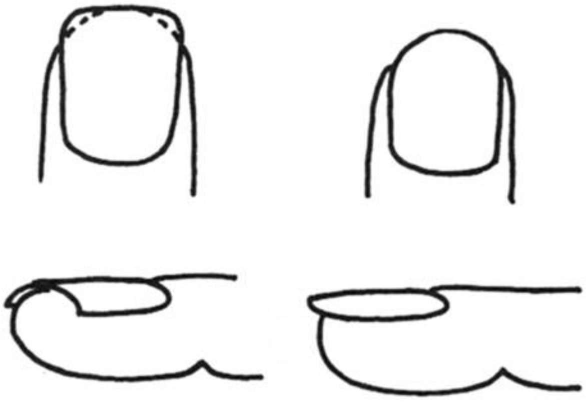


Fig. 9

Care should be taken when filing the sides so as not to create too sharp an angle with which a truly pleasant sound is difficult to obtain (Fig. 10). In order to have a better idea of the effect of very pointed nail, strike the string laterally, i.e., with the extreme side of the nail and note that the string produces a sound lacking in body.

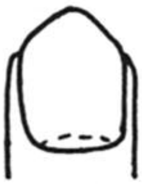


Fig. 10

Returning to the thumb, let us look at the situations that require the *nail stroke:*

(a) when greater clarity in the exact intonation of notes of lower frequencies is desired.[*]
(b) to obtain much greater volume.
(c) for increased speed.

With the nail shaped as already indicated, it is prepared for playing by turning the hand towards the left, thus demanding a *special presentation of the hand,* different from the Natural Position (N.P.). The thumb should be placed with precision so that the side of the nail strikes the string at only one point (see Figs. 11 and 12).

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[*] Descending into the lower spectrum of the pitch frequency produces an increasingly greater number of *audible* overtones—the elements responsible for what we call *timbre.* As this acoustic property can give rise to a muddy effect, the more incisive stroke by the nail (compared to that by the flesh) will produce what can be considered "enhanced" intonation. (Obviously, the problem of muddiness does not apply to notes in the treble range where the number of audible overtones is reduced.) Experience and a fine ear will show that this is so.

Presenting the nail in this way cannot be considered an isolated event, one detached from the act of striking the string. This presentation should never be thought of as something static but rather as a living element of momentum; to break up this process into two separate phases *must be avoided* for it must form *one single and combined movement.* In other words, to place its components in the time order, *first presenting and afterwards playing, must be considered faulty.*

Just after a nail attack, it is appropriate to return the hand—which had been rotated slightly toward the left—to its usual state whenever the stroke is an *isolated* one and if time is available for this return. It should be realized that the change of presentation required for the nail stroke places the hand badly for the other attacks. This is why the hand should be brought back to N.P. where the thumb retrieves its flesh stroke.

When a nail stroke is repeated and no intervening activity necessitates a return to N.P., and if the intervals between repetitions are very short, the presentation for the nail stroke is maintained in order to avoid instability of the hand.

A properly shaped nail and a lateral attack permit the thumb to strike any of the six strings with either the flesh or the nail and in complete freedom. Although going from flesh to nail is effected by a change in presentation of the hand and thumb conjointly, a nail stroke *does not necessarily imply fijación of the thumb;* it simply depends on presenting the hand in a special way. *Fijación* will be used (inevitably) when a stronger attack and/or greater velocity are needed.

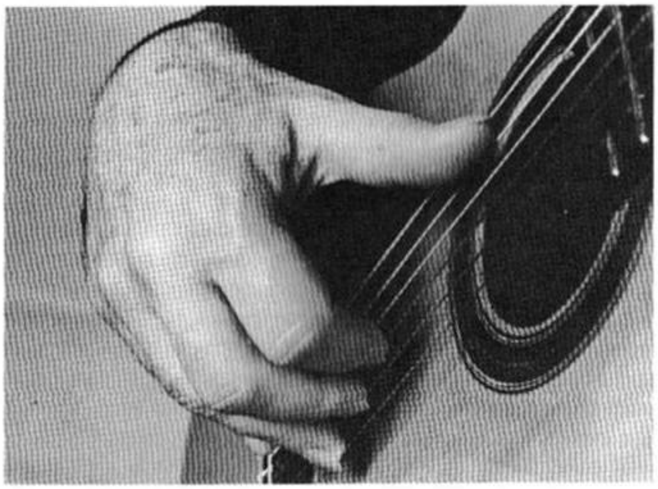

Fig. 11
Flesh stroke

Those who have an overgrown nail play with the thumb perpendicular to the soundboard, a very different presentation, and a situation which abolishes all the possibilities of the other fingers. The extreme part of the thumbnail comes into contact with the string and obliges the whole hand to be enslaved by this way of playing. Nuances cannot be achieved by such an unvaried stroke; only the performer who is very gifted by nature will be able to bring into evidence certain subtleties, regardless of this mechanical limitation. In spite of the badly shaped nail and the defective use of his or her thumb, this performer is more than capable of prolific work under these precarious conditions.

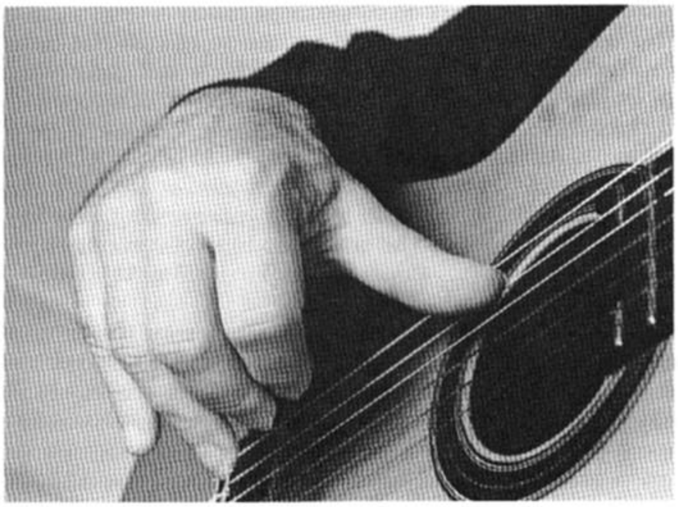

Fig. 12
Nail stroke

E. THE USEFULNESS AND APPLICATION OF FIJACIÓN

The thumb, like the other fingers, can function in various ways. It can act on its own, or it can work in association with the hand through the use of *fijación*, depending on the volume and speed required. *Fijación* (the momentary bypassing of an articulation so as to allow other forces to come into play), is of extreme importance and usefulness when it comes to dynamics and velocity. It is interesting to note that it can be introduced gradually, and thus can be used not only totally but also partially.

First to be considered, however, is the free movement that the fingers can make without affecting the stability of the hand. Force and velocity have their upper limit in the maximum output obtainable from the muscular aggregate of each finger alone.

Using *fijación* to call upon stronger elements does not necessarily imply that the movement of the thumb itself must be disregarded. It is now prudent to realize that there exists *a range, an ascending echelon* which begins with the free and isolated thumb stroke at one end, then *passes through graduated levels of fijación*, during which the thumb and the hand *work together* sharing the activity. Then as greater velocity or volume is needed, the thumb relinquishes its direct participation little by little until finally, *for extreme levels of speed or dynamics, the active force of the stroke is performed entirely by the hand or arm by means of fijación.*

It is then that the clever application of *fijación* lets the hand and sometimes the arm take an active rather than a passive role to aid the thumb; at times, the hand will even make the whole effort. In this last case, the thumb becomes a mere anatomic extension, letting the wrist make short, brisk leftward motions. It is a back and forth movement that has its axis at the arm and which is transmitted to the striking element (thumb) via *fijación* of the wrist and thumb. Although the stroke can be performed with the flesh, it is more usual to do it with the nail which, as a result of the turning of the hand, is naturally brought into direct contact with the string.

As the fastest form of attack by the thumb, it eliminates fatigue due to the fact that the arm (which has much more strength than either the fingers or the hand) is handling the load. The greater impulse being dealt with here would require an equally greater control of the movement in order to *restrain the momentum generated.* The thumb should not be allowed, because of its inertia, to continue carelessly onto the adjacent strings.

The graduated transitions dealt with earlier with regard to *fijación* are of vital importance. The intelligent use of these resources characterizes the true interpreter who, knowing how to guide these series of combinations, will apply them *properly and at the moment required.*

F. ATTACK: INITIATING AND RESTRAINING MOMENTUM

Of fundamental importance in the act of striking a string is the concept that *the attack consists not only of placing the string in motion,* but also of immediately complementing the stroke with a reverse and opposing force which is at least equally as strong as the stroke itself. It is this *restraint of momentum* which avoids letting the finger surrender itself completely to its own inertia and developing the vice of pushing against an adjacent string.

The restraining of an impulse is to be done with high precision through *fijación* and *muscular aggregates.* The original stroke must be opposed by the force of a group of muscles sufficiently powerful to brake it. Consequently, the mechanism of an attack is divisible into *two phases,* AGONIST (impulse) and ANTAGONIST (restraint). The restraining force must inevitably be equal to or greater than, and in a direction opposite to the initial impulse. *The controlling force required has to be directly proportional to the dynamics employed.*

The impulse or momentum generated by a finger as it strikes a string can be restrained with the muscular aggregate of that same finger. When a stroke is performed by combining finger and hand through *fijación* for purpose of greater velocity or force, the braking power is effected simply by taking advantage of those same elements. In this way, the thumb can execute a *fortissimo* stroke without in any way disturbing an adjacent string.

The thumb may place itself on or lean against an adjacent string *only if there is no reason to do otherwise;* BUT THIS SHOULD NEVER BECOME HABITUAL, and thus never be assimilated as a system. *This applies equally well to all fingers of the right hand.*

The "Rest Stroke" (*apoyando* or leaning) as used by traditional guitar schools derives from reducing the concept of string attack to one single phase, the agonist. By not finding another convenient braking or restraining mechanism for the uncontrolled effort of the finger, they have been obliged to rely on the nearest string to arrest its motion. The rest stroke is also a result of being unaware that the intelligent and selective utilization of muscular aggregates and *fijación* is possible. (In actual fact, the traditional rest stroke employs *fijación* in both phalanges, but since he who uses it is incognizant of this, there is not much he can do about controlling it.) NOTHING IS WORSE THAN SYSTEMIZING A DEFECT.

G. TWIN-STROKE OF THE THUMB ("TOQUE DOBLE")

The *twin-stroke* can be defined as a situation in which a single attack is made on two or more strings so that *the thumb performs two strokes at one time, beginning with the flesh and terminating with the nail.* The different strokes of the thumb have already been discussed with respect to their separate uses. Although until now these strokes have referred to the playing of individual notes, it is time to consider the possibility of striking two, three, or even the six strings with a single blow.

The effect of combining flesh and nail is of much importance as it can lend itself very well to certain objectives. If, for example, only the flesh of the thumb is used to strike, say, the sixth and fifth strings simultaneously, a homogeneous sound quality will be obtained, one which amalgamates both notes in a way that would not allow the ear to detect a difference in timbre. This effect is by no means to be put aside; on the contrary, it is undoubtedly eloquent in certain sonorous atmospheres.

A different form of attack involves striking the sixth string with the flesh and the fifth with the nail. This novel approach, however, calls for finesse in both the thumb and the wrist, the latter of which uses an extremely delicate movement to present the nail to the string. This time, the same two notes as before would be heard, but with the difference that, while the first one will sound opaque, the second will have a clearly defined singing quality.

This use of the thumb can be applied as well to the playing of three, four, five or all six strings. In other words, it is feasible to play full chords with the thumb in a very natural way; even beginning, say, on the sixth string and ending up (with the nail) on the second *without in any way affecting the high E string*. Of interest value is the difference that can be obtained between the highest note and the rest of the chord: the singing note can be made to sound at a chosen dynamic level, anywhere from *piano* to *fortissimo* (due to the nail), while its accompaniment is delivered at a slightly lower intensity.

This nuance, which is made possible with the twin-stroke of the thumb, requires a very subtle effect of the hand (in its use of *fijación*) in presenting the nail *only* to the last string to be struck. Playing this chord in the more traditional style, however, can only produce the same intensity for each of the strings—except for those guitarists who are well-endowed by nature.

The volume of the chord played needs to be tempered proportionally to differences in string tension, taking into special consideration the vibrations of the notes in the low register in order to avoid any slapping of the bass strings against the frets.

The mechanism of this attack involves a small turning of the wrist towards the left in conjunction with the downward displacement of the thumb towards the first string (Figs. 13 and 14). This turning movement is necessary for both presenting the nail to its exact location as well as for enabling the thumb with the help of *fijación* to project the action of the wrist over the strings. This is to say that, depending on the requirements, *any isolated action of the thumb on one or more strings demanding wrist action ought to be done with a leftward turning of the hand—NEVER towards the right.*

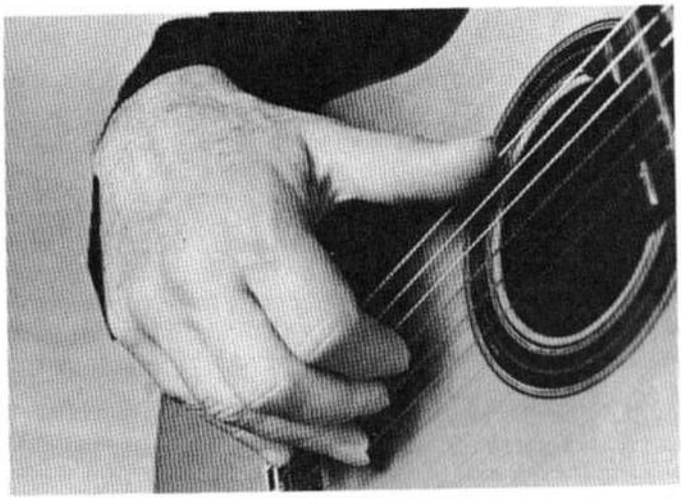

Fig. 13

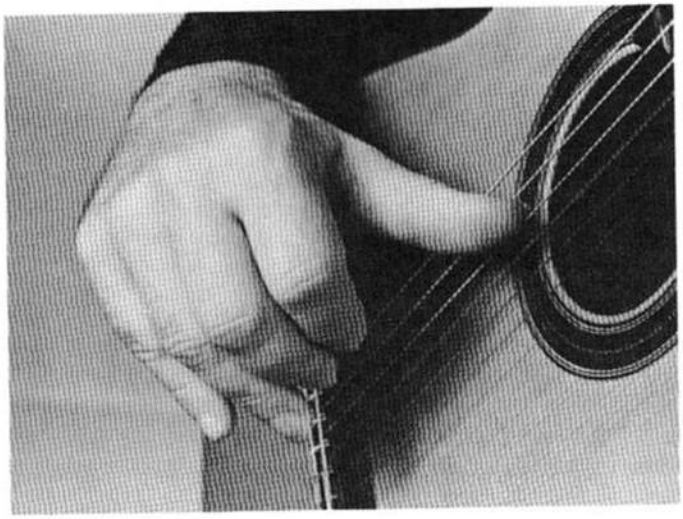

Fig. 14

It should be clarified that this mechanism does not require any displacement of the arm since the greatest amount of transversal displacement of the thumb (from sixth to first strings) can be covered adequately by the action of the wrist. *The contact point of the right arm is, therefore, to be maintained.*

Notwithstanding, for purposes of drastic *fortissimos*, the arm can take on an active role; when lifted, greater emphasis can be given to the turning of the wrist. Freeing the arm in this way permits a more powerful muscular aggregate to restrain the momentum.

Before concluding this section, it may be mentioned that the twin-stroke of the thumb is also feasible for non-adjacent strings, as for, say, the sixth and fourth. The first one of these would be played with the flesh while the second with the nail.

H. PIZZICATO AND MUTE (SORDINO)

Pizzicato on the guitar can be effected with *complete control of dynamics and duration,* at least to the extent to which a plucked string permits. It can also make possible the production of *different timbres on other strings.* Hence, a *pizzicato* (played *piano, forte, fortissimo,* or whatever) could be performed simultaneously along with notes that are played in their normal fashion, or even made to vary within the range of metallic sounds.

This might appear somewhat bizarre if it is not realized that what has been (and still is) referred to as "pizzicato" is in reality something else: *the act of placing the left side of the R.H. palm on the strings near or on the bridge.* Actually, this traditional effect produces a *muted* sound since the strings are dampened *before* they are struck. Such a mechanism is by no means to be discarded as it corresponds to another effect for which the label "sordino" is more apt; this will be examined below.

Pizzicato on bowed instruments is the result of "pinching" or plucking the strings with a finger. Because these particular melodic (rather than harmonic) instruments do not permit their vibrations to sustain, the notes produced are of relatively short duration. On the other hand, doing the same thing on the guitar—an instrument that is both harmonic and melodic—produces much greater sustension and resonance; it is therefore impossible to extract a *pizzicato* sound in an identical way.

Pizzicato Technique

The *pizzicato* mechanism consists of two well-defined phases that occur successively: attack and dampening.

(1) *The attack:* The hand makes a small turn to the left, bringing the thumb to its precise location for playing. At exactly

the same instant as the stroke, *and acting in combination with the thumb* (which is making its own movement), the hand performs a short quick motion upwards, like a nervous tic, bending the wrist and bringing it closer to the soundboard (Fig. 15).

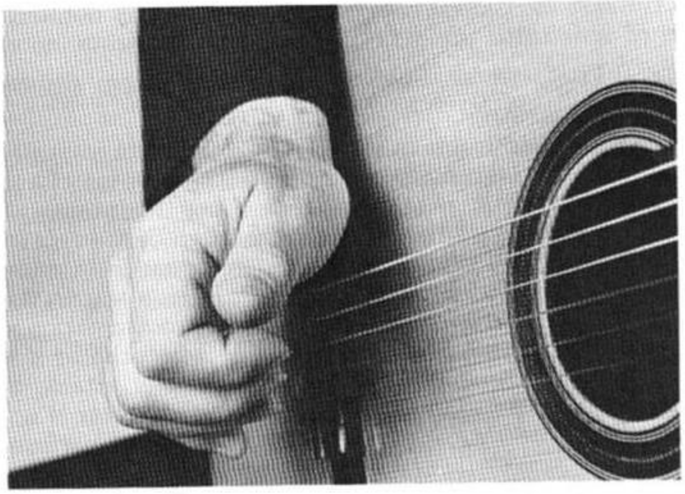

Fig. 15

(2) *Dampening:* The section of the palm on the opposite side of the thumb serves as a mute, *but only after the attack has taken place.* This is done by turning the wrist so that the right part of the hand dampens, near the bridge, the string or strings desired (Fig. 16).

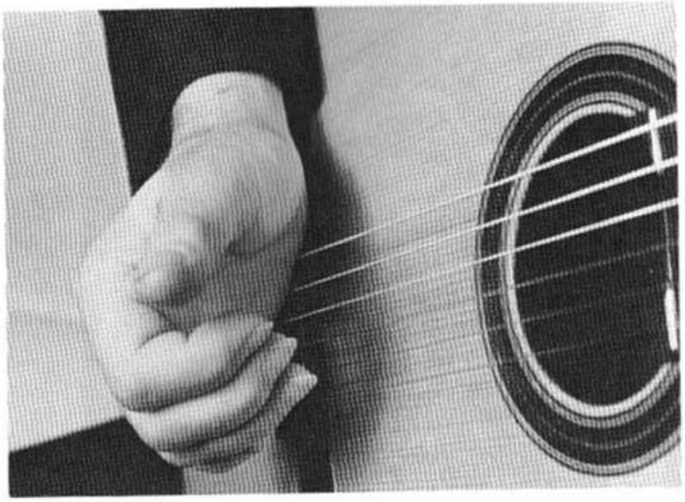

Fig. 16

The interval between the attack and the dampening phase is modifiable: a small interval would shorten the *pizzicato* effect, while a larger one would prolong it. Consequently, it can be brisk, almost dry (with very rapid dampening), or quite extended. A halo effect can even be created around the sound by barely touching the string(s) with the very edge of the hand so that the vibrations are not stopped altogether. (The last mentioned case can be conveniently notated by placing a sign of indefinite prolongation over the *pizzicato* note, as follows: PIZZ .) Furthermore, in such prolonged *pizzicato* situations, the use of vibrato is feasible.

Thus, it can be seen that *pizzicato* can be used as an *element of color,* one that is malleable and sensitive to whatever change may be required.

Also possible are variations in dynamics. Since the intensity of sound depends on the muscular aggregate which (through *fijación*) is applied to the string, it will be found that a *pizzicato* can be made to sound *piano, mezzoforte, forte,* or *fortissimo.* For an extremely loud sound, the thumb stroke should be effected with the nail in direct participation with the hand and arm. This stroke becomes accessible when the arm is placed almost parallel to the soundboard at the moment of attack, therefore momentarily nullifying its point of contact with the guitar (Fig. 17). On the other hand, for lower dynamic levels, the thumb can perform simply with the flesh.

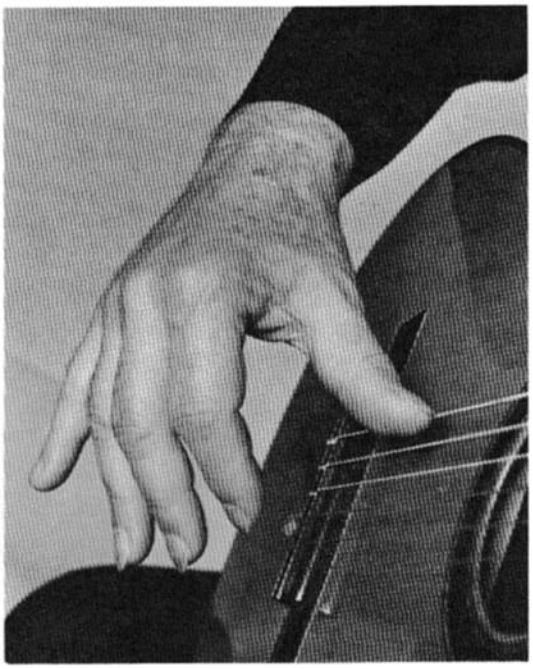

Fig. 17

The advantages of this *pizzicato* technique consist not only of variations in dynamics and duration (a dry sound or one with more or less resonance)—greater speed is also obtainable. At the same time, the remaining fingers are free to perform with total liberty on other strings. This follows from the fact that, *at the moment of attack, the hand finds itself in a free (natural) stance,* the dampening taking place only *after* the stroke.

Sordino Technique

In contrast to the *pizzicato,* the *sordino* mute is effected *before* a string is struck by placing the right side of the hand lightly either over the bridge itself or over the strings near it (Fig. 18). The exact location of the mute will depend on the sound quality desired. With the hand right over the bridge, the sound obtained is clearer; the further it is placed on the string(s) away from the bridge, the darker the effect becomes.

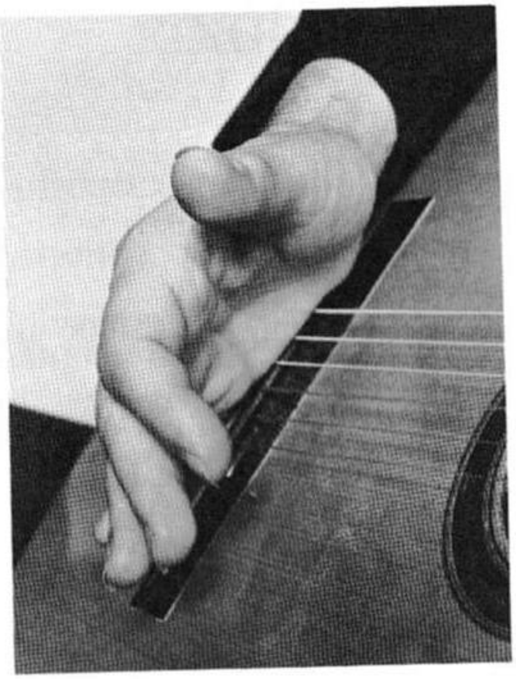

Fig. 18

CHAPTER V

RIGHT HAND—PART II INDEX, MIDDLE AND ANNULAR FINGERS

A. DYNAMICS, TIMBRE, AND THE GUITAR

B. STRING ATTACK

C. DIFFERENT STROKES OF INDEX, MIDDLE AND ANNULAR FINGERS: TOQUES

1. In Order of Intensity
2. In Relation to Timbre
3. Variant of *Toque* 1 as a Singing Element

A. DYNAMICS, TIMBRE, AND THE GUITAR

It is during the preliminary study of a new piece that a number of questions come to mind. Amongst them are, for example, What notes are to be accentuated? and, Where can crescendos and diminuendos be put to good use? After logically deciding on a way that a particular musical section might be played, one is ready to put into practice the muscular apparatus in all of its precision. The mechanics to be applied must be completely docile to that mental organization which governs every movement and helps to fulfill the demands of musical reanimation.

Art is, above all, the construction and the balance of forms. A performance that is lacking in precision and ill-proportioned in its conception of tempo and dynamics (and even timbre) does nothing but mar the interpretation. As a result, in addition to taking away from the interpreter's spontaneity and musicality, this performance induces a lack of interest in the listener.

The scope of technique surely embraces a good deal more than the ability to play a string of notes very rapidly. For example, it is generally accepted that the melodic line should stand out from its accompaniment, and whereas simply carrying across a melody has its own difficulties, it is even trickier when the fingers are also engaged in playing other parts, parts belonging to a secondary plane of intensity. Using volume to highlight certain notes within a chord could well be a secure path for bringing to the foreground certain aspects of an interpretation.

There are a series of demands with which technique ought to be able to cope satisfactorily. Making the fingers respond to various situations, e.g., differences in color, dynamics, etc., is not easy and requires not only much work and concentration but also a very subtle training of the ear. The situation may prove to be more complicated still when dealing with works of a polyphonic nature in which two or more lines have to emerge clearly. The problems that arise when differentiating voices by *color* and *volume* call for a control and dexterity that can be mastered only through meticulous study, one that is guided by Instrumental Theory.

It would be advisable to encourage the student to develop a conscious attitude from the very start so that he can later intelligently apply the nuances of dynamics and timbre. This type of work should be emphasized even for the simplest of exercises, as in this way he is already training his fingers to adopt the different attitudes required.

Dynamics

The ability to increase and decrease the volume of sound adds a quantitative dimension of great importance to musical expression. It would be proper to point out the danger of being seduced by the bewitching effect of crescendos and diminuendos which, when abused, could even lead to *un*-music. If our art were to consist of only this, the acoustic outcome would prove to be not much more interesting than a bit of noise.

Variations in the degrees of sound intensity is the characteristic referred to as *dynamics*. Only a true artistic sense is capable of guiding the dynamic process so that it can be made to flow with a musical work, at the same time shutting out the possibility that it fall into the grotesque materialism of pure sound effects.

Nevertheless, it must be noted that the sensations of *quantity* can go hand in hand with those of *quality*. The sound of a trumpet, for example, characterized by very powerful upper harmonics, has difficulty conveying a sensation of *pianissimo*. The brilliant quality of a violin is intimately related to its dynamic possibilities. *Every instrument possesses a range of intensity which must be respected so as not to destroy its equilibrium,* for when the dynamic range is exceeded on either side, the instrument becomes impoverished. Doubtless, real differences in dynamics can be detected, but the resultant effect is dictated by the very nature of the instrument. Just as the flute is not capable of playing with the same intensity as that of a trumpet, so too, the trumpet cannot be attenuated to the level of the *pianissimo* of the flute. Therefore, each and every instrument defines its own spectrum within which dynamics are free to fluctuate.

Dynamics, the progression and regression of intensity, can be used to maintain unity with a single sonorous gesture. On the other hand, any sudden change in dynamics detracts from the idea of unity; it splits it.

Neither should *fortissimo* be confused with brute force nor *pianissimo* with the absence of sound. An increase in auditory sensation is not simply a product of an increase in decibels: doubling the intensity of a sound produces a barely noticeable effect. A spectacular accumulation of instruments, for instance, is more numerically awesome than acoustically impressive.

If a guitar string is struck very strongly, the quantity of sound produced may be quite small when compared to the effort employed. Like most other things, the guitar has its limits: if the strings are allowed to vibrate out of all proportion, the accompanying oscillatory movements would cause them to hit the fingerboard, resulting not only in a reduction in the vibrations but also in an unwanted noise from the blow. It is, therefore, important to control one's own force and to bear in mind the dynamic spectrum of the instrument, since an exaggerated stroke might produce a sound that is inadequate, blurred, and even noisy—not always the most desirable effect. The other dynamic extreme, the *pianissimo,* should be well distinguished from a sound that is meagre, lost, or hesitant.

Timbre

There exists a property that is related to the texture of sound and that is inherent to the guitar. It is a property which allows for such extended variations in tonal quality that one can be made to feel the participation of various instruments: a spectrum of color, a rich and flexible sound palette, the miniature orchestra to which Berlioz referred. *The guitar can lend different timbres to the same note—herein lies its greatness.*

Timbre is that quality of sound which allows two notes of the same intensity and pitch to be recognized as belonging to one or another instrument or voice. Timbre is thus color enrobing every note, lending it personality and individualizing it. It is a function of a series of secondary sounds which, not unlike a stellar constellation, accompany the basic note. Being found in greater or lesser number and intensity, they endow the main note with color. These secondary sounds are called harmonics. Such an auditory phenomenon is the result of the blending of a fundamental tone with a series of harmonics, which though inaudible as isolated tones nevertheless make themselves evident through their coloring effect.

The color of a sound is related to the differences in the intensity of its component harmonics. When higher frequency harmonics (or overtones) are stronger than lower frequency ones, the sound is penetrating and metallic. Then again, when the lower frequencies dominate, the sound has fullness and warmth. (The term *metallic* is used here generically from a guitaristic viewpoint and denotes a timbre opposite to that of *dolce.)* In other words, the more intense the upper harmonics are, the brighter and more metallic the sound appears.

The guitar is privileged with its diversity of colors, yet the unmeasured use of this resource could give way to something vain and superficial. Seeking timbre for its own sake would be a mistake since the final result could turn out to be merely decorative. A solution can always be found by relating it organically within a set of aesthetics, for when sounds are combined to establish a well-proportioned structural order, timbre will become more than a simple sensation. Rather, by teaming up with the intellect it becomes an affirmation.

It can therefore be appreciated that on a purely musical level, timbre—just like sound—is lifeless when considered in isolation. Its *raison d'être* is a function both of what other colors are employed and of the use of silence, from which all music departs. At all events, this spectrum of nuances cannot be measured out coldly; it has to be felt as something organic, a product of the personality.

The right hand of the guitarist contains the timbre and dynamic possibilities to exploit those resources that his instrument offers, but which are available only to him who knows how to use his fingers intelligently to distinguish one stroke from another for color and intensity.

Traditionally, changes in timbre have been associated with differences in the *location of the stroke* on a string ("sul ponticello:" *metallic,* "tastiera:" *dolce).* Without a doubt, this is quite valid and must by no means be underestimated since it gives access to a very useful range of nuances.

However, there is another and more subtle path that is directly related to the way in which the fingers and the hand behave, a path which has two great advantages. On the one hand, it intrinsically contains an ample horizon of color, and on the other—and here lies its virtue—it is capable of presenting *various timbres simultaneously.* An approach so rich in possibilities can only be developed by understanding and putting into practice the various forms of strokes *which do not require the displacement of the hand* towards the bridge or towards the fingerboard.

Again with reference to dynamics, it should be realized that the segregated work of the fingers, i.e., when divorced from the hand and arm, is capable only of a limited dynamic range. When an element that is not up to par with a given dynamic level is selected to perform a task, the necessity will arise of having to resort to other (possibly negative) means. A case in point is the isolated finger called upon to produce drastic dynamic effects by either wrenching the sound or by slamming against the adjacent string (see Chapter IV, Section F). *Worse still is when these defects are converted into rules so as to establish an incoherent theory.*

It is a fact that it has been and is still held that the fingers must be able to produce their maximum strength without allowing either the hand or the arm to intervene. In addition, traditional schools have proclaimed that the impulse of the finger must be contained by the adjacent string, thereby establishing the dichotomy "rest stroke" and "free stroke"; they have even taken into account the "exceptional case" of playing on the sixth which has no adjacent string to stop the movement of the finger.

These schools have employed the fingers as the *only* mechanical storehouse of the guitarist. It is high time to understand and assimilate, once and for all, the basic concept that *the fingers cannot and must not work alone and in isolation,* deprived of their own proper resources, the hand and the arm, which have for so long been neglected and the very existence and potential of which have been ignored.

B. STRING ATTACK

Obtaining a pure sound from a string is related to *two very important factors,* the first of which has to do with the perpendicularity of the trajectory of the fingers across a string. The attack must occur at only one point, something that would not be possible with an oblique trajectory. This is the way to ensure the full vibration of the string as well as to minimize waste. Any "skating" by the finger on a string should be avoided, for the ensuing friction is likely to produce a secondary sound, better referred to as a type of background noise which has nothing to do with the intended sound.

Even when the attack is effected at one single point, however, there is nonetheless some friction which might be audible. This brings us to the second factor, that of the *speed of the attack.* The interval of time during which the inevitable friction is produced when a finger strikes a string must be reduced as much as possible by minimizing the duration of the stroke. For example, a slow stroke lasting, say, 1/3 second, embodies a friction (with its inherent noise) of the same duration. Now, if this friction time were to be shortened to, say 1/10 second, the accompanying noise even though still present would be virtually imperceptible owing to its very short duration. For this reason, *a fast and constant speed of attack* should be developed and used whether playing *piano* or *forte.* This applies equally well to the thumb (which has been treated extensively in the preceding chapter) as to the index (*i*), middle (*m*), and annular (*a*) fingers.

Each player must develop his own constant speed of attack which (though invariable for him) might very well be different from that obtained by another guitarist. What is important to realize is that *piano* should not be associated with *slowness,* for such an attack would deprive it of its real quality and bring with it a host of undesirable noises. *A piano is to be performed with the same speed of attack as that of a forte.*

How then is one stroke to be differentiated from another? The difference lies in the amount of opposition placed against the string, and this is determined by the *mass* and the *muscles used.* Shortly it will be seen how this is a function of certain elements: the employment (1) of simply one phalanx, (2) of the muscular aggregate (all the muscles of a finger from its very base), or (3) in the most demanding cases, of the vital coparticipation of other muscles through *fijación.* Consequently, the greater the opposition the louder the sound will be.

The development of technique must lead to the full consciousness of the fingers and to the complete independence of their movements. This independence first takes place in the mind so that not only can the separate activity of each finger be controlled, but at the same time the unnecessary movement of the unengaged fingers be avoided.

Two phases in the activity of the fingers need to be separated and well-defined. These are, firstly, the *natural contraction of the muscles* required both for the attack and for the restraint of the impulse, and secondly, the *sudden cessation* of all effort by the muscles once the activity of the fingers has come to an end. If a muscular contraction is allowed to persist unduly, all freedom is lost. It would be convenient to recall that it is as important to control and contain the attack as it is to deliver it. *The attack should only be considered complete when it is accompanied by a restraint,* one that follows it like a shadow.

The contracting of one finger should not induce a contraction in any of the others whether they be adjacent or not; on the contrary, they are to remain isolated and in complete repose. Neither should the *movement* of a finger be transmitted to its neighbor, since this could only serve to hamper the performing fingers which should feel totally free from one another in order to be capable of responding immediately to the performer's will. Needless to add, the obstruction of their movement would mar the attack as well as detract from the general clarity of the playing. It can be concluded that *the state of repose and immobility of the fingers that are not performing is no less important than the activity of those that are.*

C. .DIFFERENT STROKES OF INDEX, MIDDLE, AND ANNULAR FINGERS: "TOQUES"

With the hand in its Natural Position (Chapter II), the index, middle, and annular fingers (which will henceforth be referred to simply as *i, m,* and *a*) are placed ready for playing; they will be naturally situated over each string, and in their contraction will be able to execute a simple stroke. During this initial phase, the dynamic range is relatively restricted and the intensity and color produced by all the fingers homogeneous. Variations in the stroke of each finger are obtainable through the exploiting of other factors; the intelligent handling of these resources will provide the imaginative player with the possibilities of emitting various dynamic and timbre nuances.

The strokes used to effect different dynamic levels also require different forms of behavior of the fingers. Each *forte,* each *piano,* each isolated accent requires a special stroke the execution of which is intimately tied up with a specific dynamic level. Each additional amount of force, each increment in dynamics is made possible with a *different attitude of the fingers.* An increase in volume calls for, little by little, a mélange between the free and unrestricted movement of the finger and the *fijación* of its articulations; in extreme cases, the hand and the arm may come into play, bypassing the direct participation of the phalanges. Between the free movement of a finger without *fijación* (see *toque libre* below) and those extreme cases, *there can be no precise point of demarcation—in fact, there is a whole strip or zone of transition.*

The different strokes and their uses will be outlined below. In order to facilitate their understanding and study, they will be enumerated and defined, but it must be clear from the start that it would be fruitless and even harmful to treat them in practice in this isolated way. Actually, all of this must be assimilated and transformed into an organic whole: it is in the leveling and blending of the different attacks that the subtle colors and the right dynamic levels will be found. As far as the spectrum of timbre is concerned, it should be mentioned that the fingers take on a very special attitude, one differing considerably from that for dynamics.

Toques[*]

1) *In order of intensity*

Toque 1—libre (Sp. adj. "free").

This *toque* is useful for playing individual notes, arpeggios, or chords softly (*piano*). The movement of the finger is free in the sense that none of its phalanges is in *fijación*. A constant speed of attack makes it a nimble and sprightly stroke. The original impulse is to be transformed immediately after the stroke into a restraining motion which avoids affecting the adjacent string by curling and cocking the finger upwards.

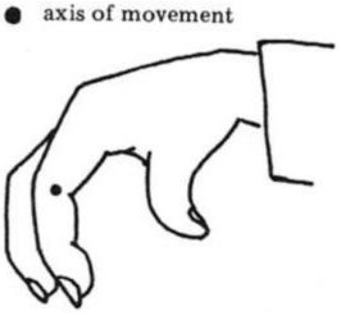

Fig. 1 Toque 2

Toque 2.

This louder *toque* necessitates the *fijación* of the last joint in such a way that phalanges 2 and 3 together form almost a *straight* line. *The axis of movement is found to be at the articulation point between the first and the second phalanx.* (Fig. 1).

The greater pressure of the finger against the string (when compared to that of *toque* 1), is due to the addition of new muscles that come into play through the *fijación* of the last joint.

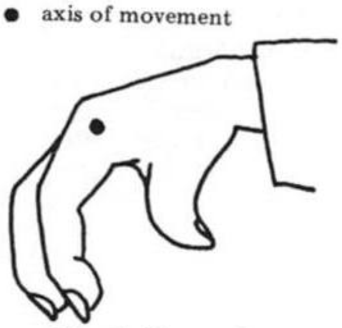

Fig. 2 Toque 3

Toque 3.

This stroke requires that the axis of movement be displaced to the base of the finger, i.e., *where it joins the hand* (Fig. 2). The rest of the articulations remain in *fijación* avoiding, however, the formations of a pronounced arc; the whole finger will thus be able to function as a single unit *through its muscular aggregate.*[*]

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[*] *Toque* (to´ kay) is a Spanish word (lit., n. "touch") which will be used here when referring to the particular *types of strokes* that can be employed.

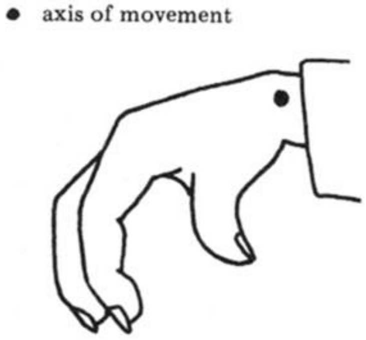

Fig. 3 Toque 4

Toque 4.

This stroke permits the active participation of the hand, the effectiveness of which is only made possible through the *fijación* of the articulations of the finger(s). *The axis of movement is in the wrist* (Fig. 3). When a good deal more force is required, however, the arm takes on an active role in which case a certain amount of *fijación* of the wrist—as well as of the fingers—will be needed.

(It is important to realize that the movement of the fingers and the hand is not abolished in *toque* 4. In fact, it is rather the opposite: they may take on an activity parallel to that of the wrist and arm. This will permit the convergence of various elements to participate directly in the attack.)

2) *In relation to timbre*

Toque 5 (Toque por tímbrica).

There is a stroke in which a *crooked* angle is formed between the last two phalanges by fixing *(fijación)* the articulation between them. A permanent effort maintains the pronounced and firm angularity of the finger. This *inflexibility* is made *a priori* and is unrelated to the actual strength employed in the attack. *Toque* 5, therefore, is not determined by the extent of movement but only by the amount of angularity, and hence rigidity, which the finger assumes in its opposition against the string. When this *degree of rigidity* (which is prepared in anticipation to the stroke) *is varied,* a wide spectrum of timbre is made available, one which includes, amongst others, the following shades: *claro* (clear), *poco metálico* (slightly metallic), *metálico,* and *aspro* (harsh and hitting), produced respectively by going from a lesser to a greater amount of rigidity.

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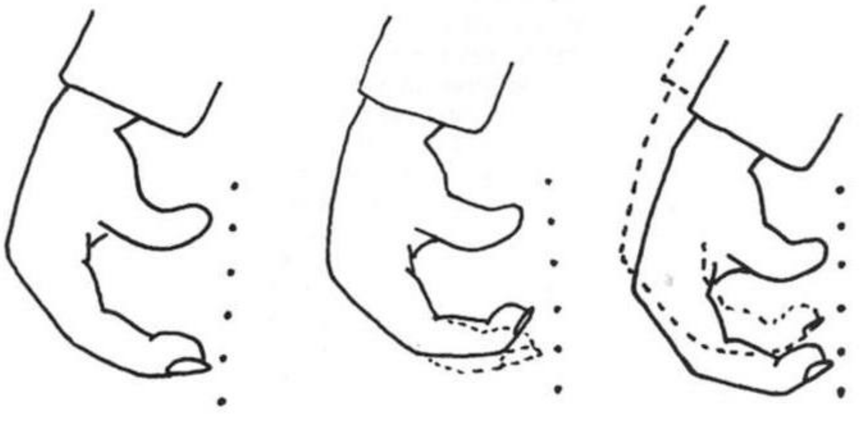
[*] It might be useful to indicate that the description for every one of these *toques* is to be taken more figuratively than literally. In each case, the real axis of movement of the finger can be said to originate in the articulation between the hand and the first phalanx, i.e., where the finger actually begins. In the text, therefore, the axes of movement for *toques* 2 and 3 refer to the fact that the articulations mentioned are not rigid but rather free to move, the inferior phalanges being activated through *fijación*. Another way of defining these strokes could consist simply of specifying that from one *toque* to another, the increase in dynamics is a product of the use of a greater amount of mass that participates actively.—Translators' Note.

There is a second force to be reckoned with, one related to the movement employed in the very attack. As opposed to the force and rigidity that give the finger its crooked form, this has to be done *lightly and with subtlety*. Hence, in spite of the rigid and solid structure of the finger, its attack must not be hard. The available dynamic range for this stroke commences with *pp* and continues as far as *mf;* this upper limit must never be exceeded lest the quality of timbre be replaced with an undesired effect, a clank.

For the color stroke being treated—*toque por tímbrica*—the role of the nail is very important, striking with its sharp angle as if to yank and lift the string. It is, however, the lightness of the force of attack that transforms what would have been a disagreeable noise into the finesse of timbre.

It is important to realize that due to the finger's attitude in *toque* 5 the last phalange, which is folded in order to maintain an angle, momentarily loses its usual location with respect to the string. *It is therefore vital to readjust the position of the hand slightly* so as to bring the finger back to its precise place over the desired string. The three drawings in Fig. 4 illustrate this point.



a. Natural *toque* b. The finger at an angle c. Readjusting the hand

Fig. 4

3) Variant of *toque* 1 as a singing element

When *toque* 1 is associated with the hand, a singing potential of major importance and usefulness for delineating certain phrases becomes available. This has no direct relation to the range of *toques* 2 through 4 since no *fijación* of the finger is needed, nor is it related to the stroke for timbre, *toque* 5. *It has its very own identity.* The nobility of its sound and its extremely subtle quality are intimately linked to the concept of the singing voice.

Mechanics: The finger by adopting an attitude as in *toque* 1 becomes a passive extension of the hand to which it *delegates the movement.* Furthermore, the combined action of the flesh and the nail is required. Consequently, touch is closely related to this stroke, and with a keen ear measured variations in the quality of the sound are possible. Thus both the flesh-nail unit and the activity of the hand are essential.

This variant which is made possible through *toque* 1 in conjunction with the hand *from which we get the movement* (increased pressure), and with the flesh-nail unit *which supplies the physical element* that strikes the string, gives us a sound that is impelled, malleable, at times intimate and warm, at others more external, but always of a singing nature and, most of all, a sensory warmth that is both delicate and subtle.

As volume is increased, *the last joints of i, m, and, a should not be bent* since doing so would result in a harsh sound accompanied by noises (from the buzzing or slapping of the string against the fingerboard). On the other hand, the *toque* for timbre *necessitates* the bending of the last phalange since this is how color is made to stand out, *but care should be taken not to exceed the dynamic range of this stroke.*

Each of these types of strokes has to be controlled by the *restraining of the impulse* as defined in Chapter 4. At the same time, both the *active force and its restraint* (the opposing force) must come into play. This is the ideal towards which our work should be aimed. We should never let the finger perform without foreseeing the resistance: potency and resistance, force and its opponent, have to go hand in hand to obtain maximal results and the surest and most efficient control.

Now that we have this information, WE CANNOT CONTINUE TO DISCUSS THE REST STROKE AS A SYSTEM ANY MORE. *The concept of fijación totally transforms the attitude of the fingers so that what used to be called "rest stroke" has no longer any logical reason to exist.* Why interfere with an adjacent string without any real purpose? There may perhaps be some leaning against a string AS A CONSEQUENCE of a particular force (and only if there is no need to avoid it) but this should NEVER BE AN END IN ITSELF.

It is to be understood that the preliminary work of the student should involve the fingers exclusively, leaving out in this first phase the differentiation between *toques* and any participation by the hand or the wrist. This belongs to a later stage. The initial study of the right hand is concerned with the *toque libre* in which the articulations are mobile and free from *fijación.* As for timbre, no particular one should be sought—just the natural sound of the string. Later, as the fingers are trained and are related to the music, other elements (dynamics or timbre) in the playing of specific notes can be introduced, and from here on the different *fijacións* can be studied.

All work has to be done with ease, and although correct playing requires a good deal of attention, work should be attained naturally. We must never forget that muscular relaxation enables us to avoid the permanent tension which leads to fatigue. By intelligently making use of relaxation, a prolonged exercise is greatly simplified. No fatigue is produced, and an increase in the duration of work is possible with less expenditure of energy.

This method of study, with the help of a structure that consciously guides every movement to be made, acquires greater solidity and insight. The student can verify the results within a short period of time and will be able to adopt the right attitude for every problem that is presented.

CHAPTER VI

RIGHT HAND—PART III THE JOINT ACTION OF THE FINGERS SEPARATING THE VOICES

A. **DIFFERENTIATING VOICES OR PARTS**

B. **BLOCK CHORDS**
  1. Unity through Contact
  2. Unity through Muscular Contraction

C. **DETACHING NOTES WITHIN CHORDS**

A. DIFFERENTIATING VOICES OR PARTS

In the preceding chapter each of the R.H. *toques* including the *toque por tímbrica* was examined in isolation. In practice, however, they are used in combined forms in a way that helps to differentiate notes within a chord or that makes clearly audible the movement of different voices; in both cases separation of the various parts is achieved.

A composer builds into a musical work a harmonic structure, a metric structure, in fact an entire organic entity that is to extend over a given interval of time. Within the interpreter who will bring the work to life lives *another* structure, dynamic and rich in possibilities, one that can situate the multifarious elements into different planes, primary and secondary, highlighted and subdued as the music might demand. This other structure manifests itself *through the right hand of the guitarist,* and when woven into that of the composer's reinforces the musical composition. Just what is the new feature that is projected onto the original work? It is the ability of the intelligent guitarist to combine shades and hues so as to construct what can be aptly named the *structure of timbre*.

It is on this level that the resources which were discussed in Chapter V can be given life and brought into play. It cannot be overemphasized that they have absolutely no value when dissociated from their musical context. They should be integrated in as subtle a blend as the guitarist can make—it is this that gives individuality to the true performer.

It has already been suggested that the student's first step in the development of the R.H. fingers should be the use of *toque* 1 (*libre*) with its own timbre and without attempting to exceed its proper dynamic level. When the novice wishes to increase the power of his stroke, he may obtain an undesired sound presumably because he has had to resort to impotent means, not due to a lack of inherent ability but rather to an unfamiliarity with a set of mechanical skills. In other words, with regard to force and to timbre, a prior knowledge of how to bring about the interplay of different muscles through *fijación* is essential. The simplest approach would involve dealing with timbre and volume separately, thereby allowing the student to concentrate on one activity and on one force at a time. This is the lucid way to begin, studying each element individually so that at a later stage both sets of resources can be used in a combined form. Whether applied to the bringing out of a note within a mass of sound (e.g., a chord) or to the highlighting of more than one moving line at a time, that very important medium of timbre will ensure that the individual parts will not interfere with each other.

Taking an elementary example by means of illustration, consider Formula No. 228 in Cuaderno 2, "*Técnica de la Mano Derecha*."* In itself this exercise presents no great difficulty and any student should be able to play it. What *is* difficult, and here lies the gist of the point, is the intelligent use of the different *toques* simultaneously since the task would have been thus converted into a skill involving the singling out of the strokes by one finger with respect to the others.

In this exercise, the index finger in having to constantly repeat the notes G and A, should make use of *toque* 5 (timbre) which, as will be recalled, the stroke that makes use of *fijación* to keep the last joint fixed at a sharp angle. The two open strings, B and E, which are struck simultaneously on every offbeat require *toque* 1 (*libre*). The thumb using a flesh stroke is activated from its base through its muscular aggregate.

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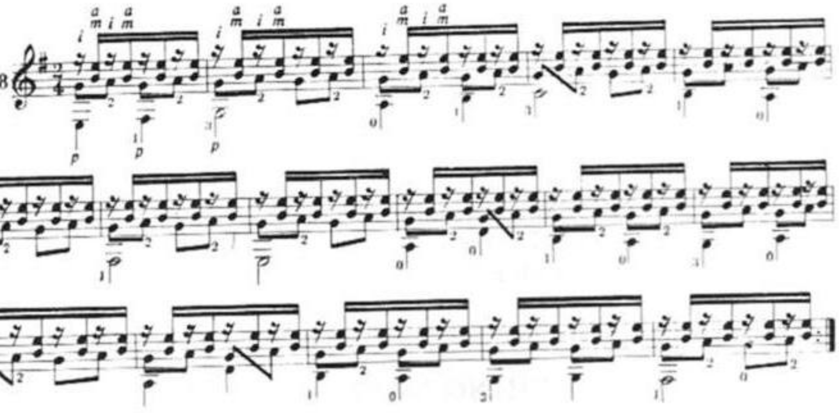
* The second book of exercises by the author in a series entitled *Serie Didáctica para Guitarra.*

There are thus three activities which are to be differentiated through dynamics and timbre. The first plane is brought to life by the thumb which, playing *mf*, carries the melodic line in the bass. The index (G-A) brings out a second but equally important plane through the employment of a different timbre (*toque* 5). Finally, the annular and middle fingers by using *toque libre*—for playing *piano*—create a third plane.

The object of all this is to put these three elements into play so that each one can be heard at its own level and without interference: by being unscathed and clearly rendered, full value can be given to the three components. In itself Formula 228 is of no importance; rather, it is a pretext for exploring the combining of different attitudes of the fingers. In a separate chapter, excerpts from diverse works by great composers will be analyzed in order to convey organically the experiences and concepts exposed in the different chapters—in other words, technique applied.

Fórm. 228



B. BLOCK CHORDS

Playing a chord in block (Fr. *plaqué*, i.e., the simultaneous production of different notes) demands that the fingers adopt a uniformity in their attack; just as there exists a stroke for one note by an individual finger, there should also exist a stroke for playing a group of notes by a set of fingers. Depending on which strings are played and, therefore, the separation between the fingers, there are *two situations* which, despite their disparate mechanisms, achieve the same purpose—*unity through contact* and *unity through muscular contraction*.

1. Unity through Contact

Unity through contact can be defined as the situation in which, to play a chord on *adjacent strings*— between which the separation is minimal—i, *m*, and *a* act as a single block effortlessly united by a *slight contact* between them. The lateral contact that thus exists between the fingers is the *indispensable condition* that allows the three of them to perform as if they were one single finger, one structure forming the unity. This, too, should be the obtained sensation, a single impulse rather than three separate activities.

2. Unity through Muscular Contraction

When the chord is played on *non-adjacent* strings, the fingers must be separated accordingly and the mechanism employed will now depend on the angular opening between them. Nevertheless, they can still function as a single unit in spite of the fact that lateral contact between the fingers is impossible to obtain in this situation.

This is done by means of *unity through muscular contraction,* a process which allows the hand and the fingers to adopt an attitude appropriate for playing chords on non-neighboring strings. The fingers *i, m,* and *a* must establish an angular opening that is initiated at the base of the fingers and that is maintained firmly throughout the attack of the chord. The muscular effort or contraction employed to conserve this separation and the resultant quasi-rigidity (even when playing lightly) must be performed not only with the fingers but with the whole hand. It should be clear once again that the fingers must not be thought of in isolation. In this particular case the root of the action takes place in the hand which provides the force for the fingers to function in association with each other, permitting muscular contraction to create a real unity. It would not be inappropriate to insist that *the necessary muscular effort resides in the hand,* which being responsible for maintaining the angular opening between the fingers, creates the unified attack necessary for simultaneously striking the notes to be played.

(The execution of an *Arpeggiated Chord*—i.e., playing the notes of a chord in rapid succession—does not require either lateral contact or muscular contraction related to angular separation as in the above situations. In fact, what is needed here for the greatest effectiveness of the fingers is their separation and total independence and ability to perform freely.)

C. DETACHING NOTES WITHIN CHORDS

The process of detaching a note from within a group struck simultaneously depends on the *type* of unity employed in playing the chord.

(1) In *unity through contact,* the finger that brings out the note requires a special *placement.* Unity through contact makes it possible to detach a note *without requiring any individual effort by the corresponding finger;* to emit its note neatly, all it need do is protrude slightly over the rest of the group.

For example, the middle finger can be made to sing with total ease when it is projected ever so slightly above the others. This is not due to an isolated effort but rather results from *its prominent placement.* (The same clearly applies to the index and annular). It is not to be forgotten that unity through contact centralizes this mechanism so that what is created resembles the movement of a single finger.

(2) In *unity through muscular contraction,* the finger that singles out a note requires a proper *effort* of its own. The muscular action here is twofold: one provides the force that maintains the opening between the fingers (as already discussed), while the other gives the singing finger the appropriate at-

titude for its attack. The latter depends on the type of stroke selected for determining and grading one of the voices within the group. The note can derive its individuality either through (a) dynamics—by giving the finger a stronger impulse—or, better still, through (b) timbre—with the use of *toque* 5. The choice depends on the guitarist, who should be both teacher and pupil at the same time.

Only by experimenting can he sharpen the auditive faculty that will enable him to perceive and produce different nuances in loudness and color. It would be advisable, therefore, to practice bringing out each note separately in only one chord at a time until a certain dexterity and an awareness of the available resources—the range of which is enormous—are achieved.

CHAPTER VII

LEFT HAND—PART ONE

A. PRESENTATIONS OF THE HAND ON THE FINGERBOARD
   1. Simple Forms
   2. Combined Forms

B. THE LEFT HAND THUMB

C. TRANSVERSAL MOVEMENT OF THE HAND

D. CONDUCT OF THE FINGERS: ACTIVITY AND REST

Correctly locating each finger mainly depends on the hand, the attitude of which issues from the action of the arm. The fingers never perform in isolation; rather, they form a single unit with the hand and arm. Prior to using a finger, *it is indispensable to consider the attitude of the arm* for on it always *depends* the movement and the placement of the fingers. The activity of any finger must be an outcome of the disposition of the whole motor complex (hand-wrist-arm). *What was once a problem to be solved exclusively by the fingers becomes a balanced and more complex task, one that has its point of departure in the mind, voluntarily guiding the arm and hand so that the culminating act takes place at the finger.* In this way, in addition to the technical possibilities offered, a higher degree of control is obtained, an ability to relax the muscles is developed, and premature fatigue is avoided.

A. PRESENTATIONS OF THE HAND ON THE FINGERBOARD

Presentation of the left hand will be defined as *the manner in which the fingers are located in relation to the fingerboard,* an outcome of a specific action of the hand-arm motor complex. To effect a particular presentation the fingers must refrain from making any effort whatsoever; the importance of this is to be borne well in mind if one is to keep clear of the development of any defects.

Working towards the same end there are two well-differentiated stages that occur successively. The first corresponds to the arm, the activity of which has a direct bearing on the behavior of the hand; the second concerns the fingers, which once located by the arm are prepared to land on the fingerboard. In this way, it is possible to present the fingers correctly in midair without having to depend for their orientation on contact with the string. Following are the various forms of presenting the left hand.

1. Simple Forms

a. *Longitudinal Presentation*

The fingers are presented in the same linear direction as that of the strings, recalling that this is done not by their own action but by their submission to the attitude of the hand, which in effect is what places them on the string. With each finger on a different fret but *on the same string,* a longitudinal impression, a relation of parallelism with respect to the fingerboard, is produced.

When all four fingers are placed simultaneously on the same string as in Example 1, it can be noted that the best result is obtained with minimal effort *when the elbow is closer to the body,* allowing the hand to take on a form that aligns the fingertips parallel to the strings (Fig. 1). Under these conditions, *the internal arc formed by the index finger and thumb must be free from the neck of the instrument.* This will facilitate and liberate whatever movement the hand may have to make (e.g., as when being displaced transversally across the strings.)

A concrete example in the use of a longitudinal presentation can be found in the study of diatonic scales which require this type of presentation for their correct performance (see Chapter IX). See Fig. 2.

(Hand and Fingers)

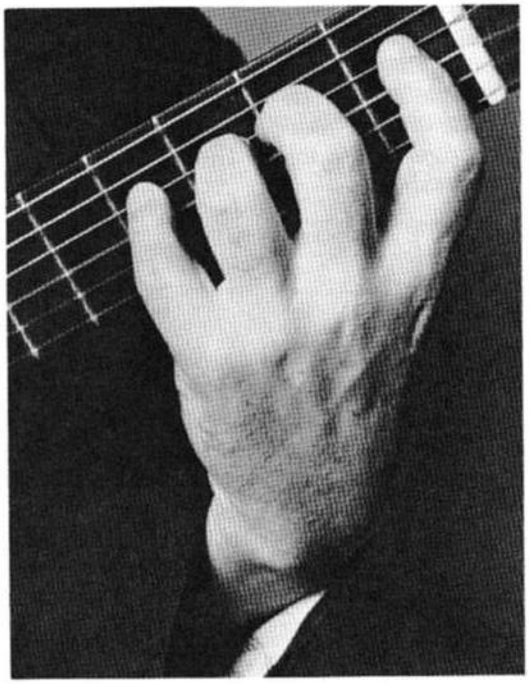
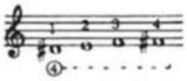


Fig. 1



Example 1

(Position I)

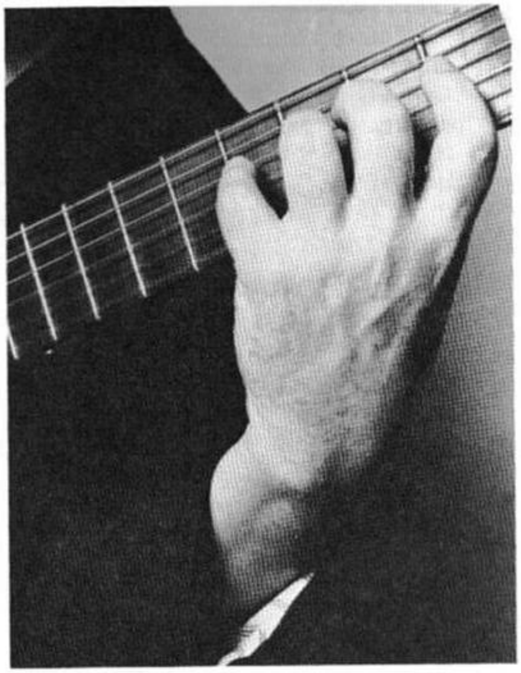
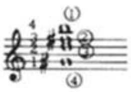


Fig. 2

b. *Transversal Presentation*

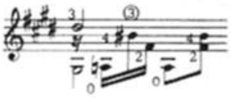
The fingers are presented so that two or more occupy the same fret but on different strings. Thus, in contrast to the longitudinal, the transversal presentation gives an image of parallelism with the respect to the frets. By playing the combination in Example 2 it can be observed that to obtain the most efficient result, *the elbow should move away from the body* in a way that naturally allows the fingertips to follow the direction of the frets.



Example 2

In this transversal presentation the thumb tends to lean laterally (inner side) against the back of the neck. At the same time, it should not be forgotten that the thumb should make no movement of its own and that any change in its attitude should be nothing more than a consequence of the movements of the hand and arm. (Exceptions to this will be discussed in due time.)

There is a fine example of a transversal presentation in the eighth study by H. Villa-Lobos (Example 3).



Example 3

The conformation of the hand in this presentation is intimately related to its location on the fingerboard. The further the hand retreats from the body (towards the first position), the more necessary becomes the participation of the wrist: folding inwards on account of the movement of the arm, the wrist makes possible the transversal presentation of the fingers. This complementary role of the wrist is required for those positions in which the arm gradually loses its range of action (see Figs. 3a and 3b).

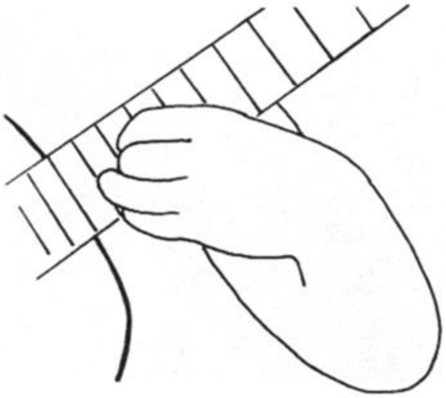


Fig. 3a

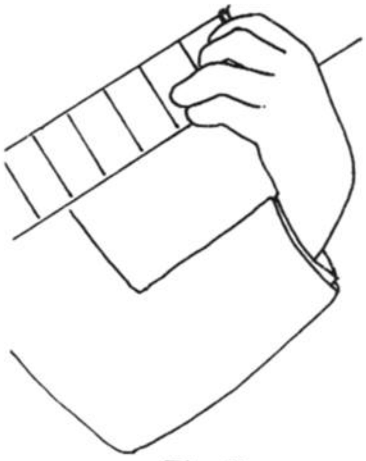


Fig. 3b

Transversal Presentation

c. *Mixed Forms*

Between the two forms analyzed above there exists a series of intermediate presentations which can be appropriately labelled *mixed.* Strictly speaking, this series is neither longitudinal nor transversal but falls somewhere in between as in the example in Fig. 4.

Mixed Presentations

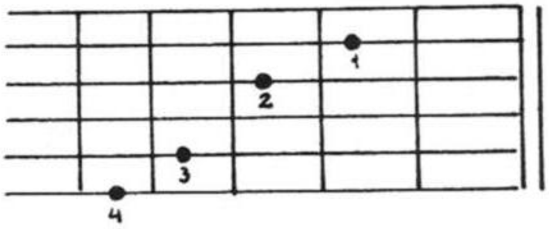
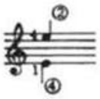
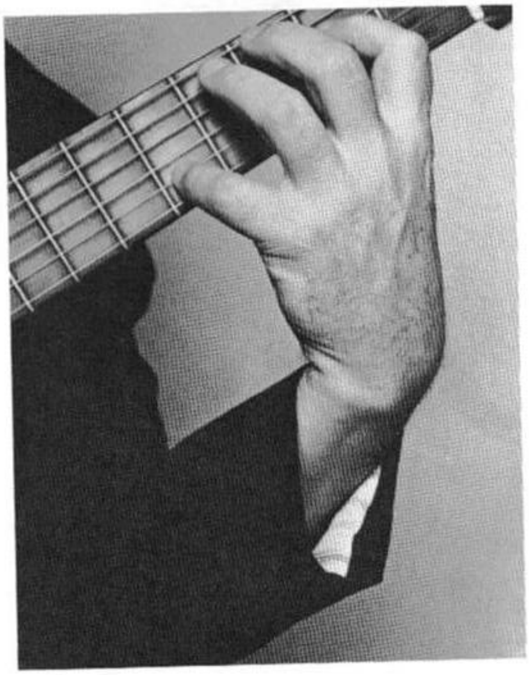


Fig. 4

2. Combined Forms

Three different types of presentations have been dealt with in their simple forms, and their corresponding mechanisms were discussed. For each of these, the entire hand-arm unit acts freely and unhindered *aiming towards one end,* its elements converging in one single presentation. However, these presentations may also appear in combined forms—indeed, it will be found that in practice they almost always turn up in this way. Notwithstanding, they should be studied and mastered in their simple forms so that later they can be united with ease.



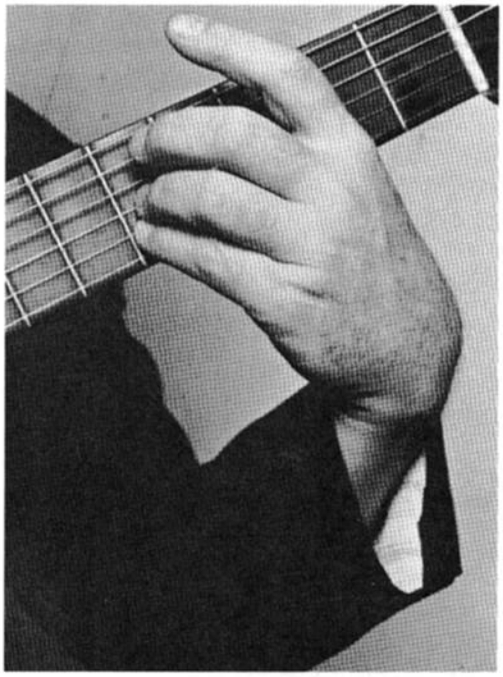


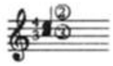
Simple Presentation (Longitudinal)
Fig. 5

As its name indicates, a *combined form* is a situation in which the merging of two presentations makes it possible to have one or two fingers presented in one way while the remaining fingers are presented in another, i.e., *the hand adopts an attitude which allows for two presentations simultaneously.*

Each combined presentation involves the contraction or distention (see Chapter XIV, Section A) *of one of the fingers* although not every distention or contraction per se implies the use of this type of presentation. From amongst the countless situations that exist, two elementary examples from the guitar literature have been selected to illustrate this point, one by distention and one by contraction.

The first, employing a combined presentation by distention, appears in the first bar of *Recuerdos de la Alhambra* by Francisco Tárrega. To place the first finger on the E of the 4th string and the fourth finger on the E of the 2nd (Fig. 5), no special effort is required since the whole motor apparatus is working unhindered: *in isolation,* it can be considered a simple presentation. This example, however, proves fruitful only after having placed the third finger which by *distention* must reach the C of the third string (5th fret); the hand is thereby obliged to go into both a transversal (Fig. 6) and a longitudinal presentation at the same time. At this instant, the attitude of the arm changes in order to help locate the fingers without their having to undergo any special effort. It is from this disposition of the arm that emerges the combined presentation seen in Fig. 7.

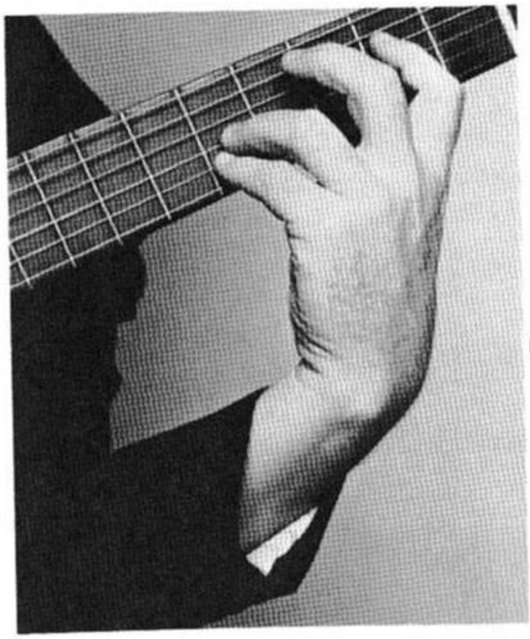


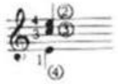


Simple Presentation (Transversal)

Fig. 6

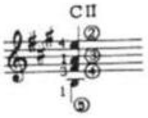
The second example—by contraction—is taken from the third study (op. 60) by Mateo Carcassi in A Major. In the seventh measure, the F♯ on the fourth string and the E on the second, as well as the whole barré itself, are naturally performed with a longitudinal (hence, simple) presentation (Fig. 8). In the second half of the measure, the fourth finger must go from the E (on which it has been already placed with perfect ease) to D♮, but the *contraction* of the finger should be performed by the arm. This action will give rise to a combined presentation formed by transversally presenting two fingers (3 and 4, Fig. 9) against the longitudinal presentation required by the barre of finger 1 (Fig. 10).





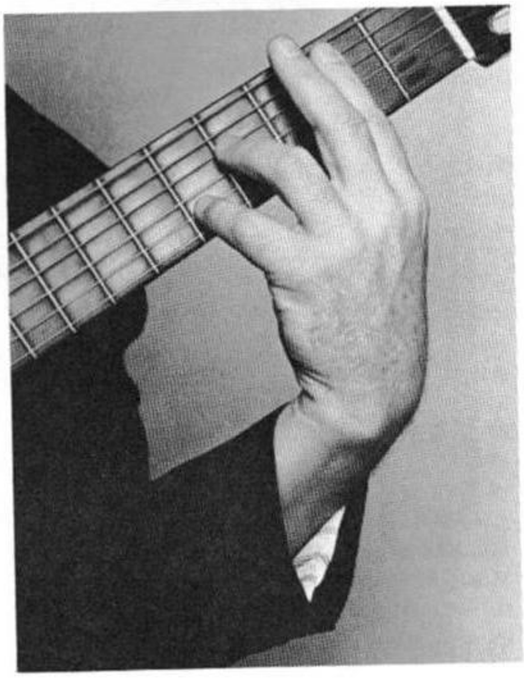
Combined Presentation

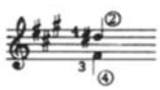
Fig. 7

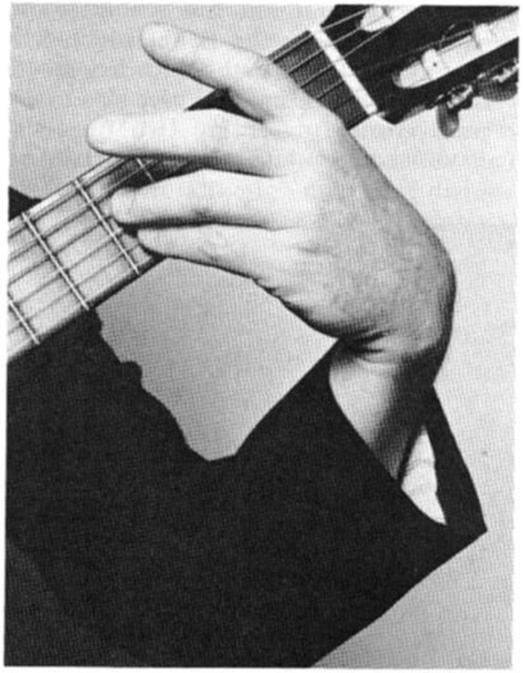


Simple Presentation (Longitudinal)

Fig. 8

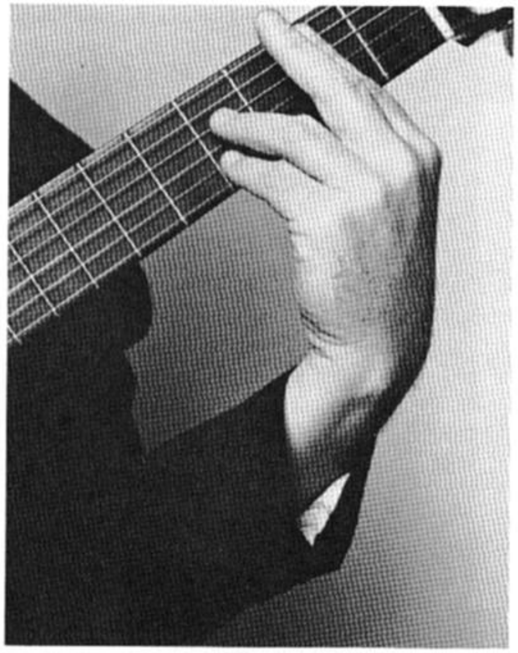


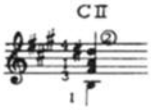




Simple Presentation
(Transversal)

Fig. 9





Combined Presentation

Fig. 10

Any distention or contraction that is performed purely by the fingers is likely to create an unstable situation, one that is in only apparent equilibrium since it requires a constant effort by the fingers in order to be maintained. This instability can be avoided through the use of the combined presentations that make readily available a much larger field of action with the minimum of effort.

Freedom in the movements of the fingers would be in no way affected if the muscles of the arm were to function with the utmost subtlety in order to make possible two presentations simultaneously. At the same time, and this is what is so important, the arm should be able to *induce* the required distention or contraction of the fingers. It is necessary to insist once again that the action of placing the fingers does not come directly from them themselves but rather from the regulated action (as intelligent as it is subtle) of the muscular system of the arm and hand. *It is in this way that a distention or a contraction is transformed into a stable situation.* The above examples are not unique: for every action requiring a distention or a contraction in a combined presentation there exists a corresponding mechanism.

B. THE LEFT HAND THUMB

The left hand thumb should make no isolated effort. Only when it behaves in a neutral way can its conduct be considered correct, for its function is to serve as a passive point of contact (though it may be active exceptionally). The stiffening up of the phalanges of the thumb can cause tension in the opposing muscles; the rigidity that results will detract from the equilibrium of the forces of the hand. An overload might also be imposed on the functions of the thumb and index often causing the thumb to be incorrectly placed. All disproportionate (forced) and illogical movements of the thumb must be corrected so as to allow for greater freedom and ease and for a saving of energy.

Although the thumb can be properly located by the entire motor complex of the arm, hand, and fingers, it has nevertheless to be controlled in order to obtain greater harmony and positive unity in relation to the other fingers, *the truly active elements*. Knowing how to place it can enhance the mobility of the whole motor system, permitting more freedom in the movements of the hand, even making possible the various distentions and contractions of the fingers. The correct position of the thumb must be considered a basic element in technique, and as such must be *docile* to every movement of the hand or the arm.

Should the thumb apply any pressure to the back of the neck? The simple case of lifting a pencil that weighs a few grams between the thumb and middle finger can help to answer this. Here, the two fingers use an equal and opposing force and thus share the effort, their functions being equivalent and complementary. In the case of the guitar this is totally different since the attitude of the thumb is supposed to be passive serving as a mere contact point, the fingers being the principle and active performers. (It has already been stated that the thumb might *exceptionally* take on an active role.)

The different attitudes that the thumb may adopt with regard to the extent of its participation as an opposing force range from one extreme case in which the thumb is totally liberated from the neck (and therefore clearly passive), to another which requires *a veritable direct opposition* as in the playing of the grand barré chords in which all the fingers are used.

With the Thumb Free

The fingers are capable of exerting pressure on the fingerboard without the aid of the thumb, which can sometimes even be found separated from the neck (e.g., when performing certain longitudinal vibratos in which the arm and hand participate directly through *fijación* of the finger in question).* (See Fig. 11.)

With the Thumb in Contact with the Neck

When the thumb is not free, however, its location and the function it fulfills in relation to the activity of the left hand have to be taken into consideration. The *location* of the thumb can be either within the range of the four fingers or outside of it. Its *function* refers to the type of confrontation direct or indirect, that it has with the other fingers.

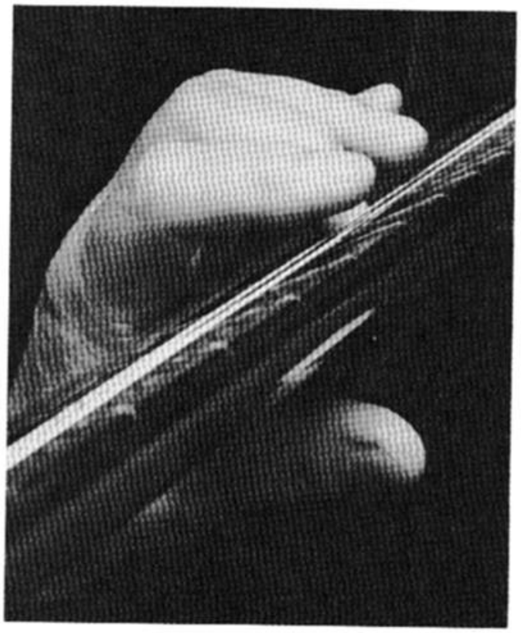


Fig. 11

A direct confrontation always implies a *static state* in which the thumb lies within the range of the hand (Example 4); an indirect one can function when the thumb is inside or outside this range.

Situations characterized by an indirect confrontation and the thumb *outside* the range, include certain partial translations as well as any passage to be performed within the second sector of the fingerboard (Chapter VIII). An example of an indirect confrontation but with the thumb inside the range involves a state of movement in which the thumb takes on an active role. In Example 5, it acts as a pivot in order to allow the hand to perform rapid and continuous ascending slurs with the fourth finger in *fijación*.

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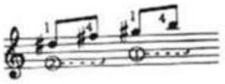
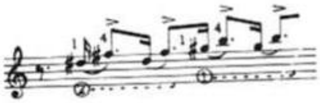
* There are, to be sure, other longitudinal vibratos that require the active use of the thumb. Vibratos will be discussed in Chapter X.

When the fingers work in total isolation as has been the case traditionally, completely detached from the aid of more powerful muscles (of the hand, wrist, and arm), the thumb has to be the *indispensable* leaning point, one that reacts—through the opposition of forces—to the pressure of the other fingers. However, when the fingers are treated as a prolongation of the entire motor apparatus (hand-arm), this attitude of the thumb would no longer be necessary. As a matter of fact, its function can be reduced to what could be called a passive participation, obeying every movement of the hand and, in short, becoming in many cases nothing more than a simple point of contact.



Static State
Direct Confrontation
Example 4



State of Movement
Indirect Confrontation
Example 5

It is interesting to observe that when the thumb is located within the range of the hand, a direct confrontation (Example 4) can be changed into an indirect one (Example 5). For purposes of force or speed, the available asset of the arm and wrist can cause a static state to turn into one of movement, transforming the function of the thumb from that of a point of contact into that of a pivoting point.

The thumb should not hinder the movements of the hand as, for example, during changes of position (translations) or whenever rapidity of the fingers in conjunction with the hand is required. In such cases, it should never adopt a static state that could hamper or even annul the potential of the hand.

C. TRANSVERSAL MOVEMENT OF THE HAND

When stopping a note on a string, especially on the basses, the finger should fall perpendicularly on the fingerboard avoiding the tendency to lie flat (as if to perform a barré). This is to say that at the instant a finger presses against a particular string it should in no way interfere with the activity of the adjacent strings—unless of course the given finger is also meant to act as an indirect damper (see Chapter X).

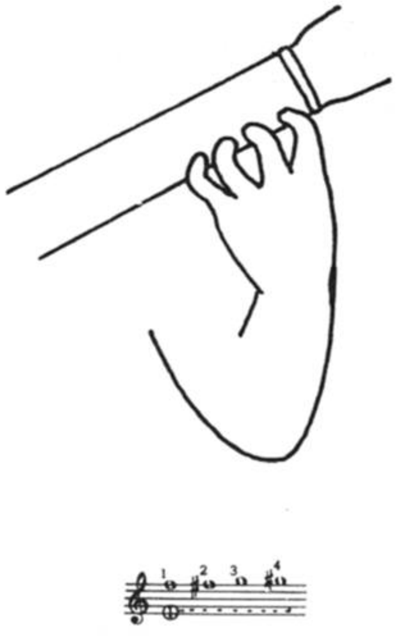
A correct attitude of the fingers can be obtained quite efficiently *without* their having to alter their natural curvature: this is done with the active participation of the arm which transfers them to their desired location. From this it can be concluded that every transversal displacement of the fingers should be effected with, whenever required, the aid of the arm, in the final analysis that which is responsible for their correct placement.

An awareness of this discipline clearly does away with the antiquated recommendation that the finger bend its last phalanx at right angles in order to form a bridge across the other strings. This is no longer necessary since now it is the *arm* which performs the correct operation and frees the finger from all effort.

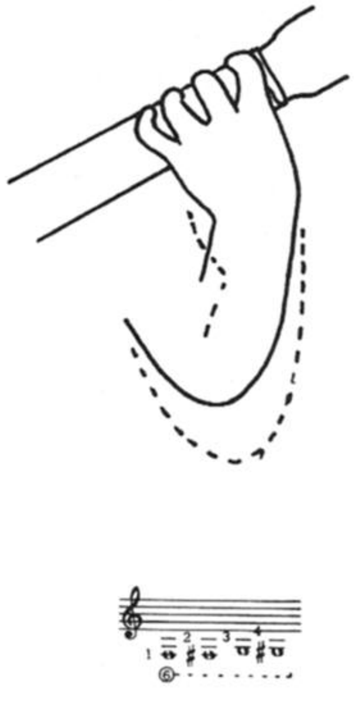
Suggested exercise. Place the thumb so that the internal arc formed with the index is separated from the neck, and present simultaneously the four fingers perpendicularly on the first string over frets 1, 2, 3, and 4 (Example 6a). Now, only with the aid of the arm (moving upwards and forwards) take the fingers to the sixth string (Example 6b) and then bring them back to the first without affecting their original presentation. Repeat this operation until the movements can be performed with ease.

Remember that this exercise is to be done *exclusively with the arm,* and therefore without any direct participation of the fingers. It will be noticed that two movements are produced, an *active* one related to the muscles of the arm and a *passive* one related to the wrist. The latter is induced by the movement of the arm and the position of the thumb against the neck, both factors working together to vary the angle of the wrist. (N.B. Since the arm is responsible for the given transversal displacements, the fingers should be located on the 6th string exactly as on the 1st, *with no effort and without moving their phalanges.)*

Example 6a



Example 6b



It should be mentioned that there is no need to pluck the strings or even to fret the notes. All that is required for this exercise is the correct presentation of the fingers (making sure to maintain the angular openings between them) over the corresponding frets.

D. CONDUCT OF THE FINGERS: ACTIVITY AND REST

The amount of force used to stop a note on the fingerboard by a L.H. finger should be the minimum necessary for producing a clean sound; it has already been seen that the hand aids in the correct placement of the fingers. When playing, there is no reason why more pressure should be applied by one finger than by another—all undue and uncontrolled effort must be avoided as it may detract from freedom and agility in the movement of the fingers, in addition to inducing useless fatigue.

Excessive force may even produce an exaggerated hardening of the fingertips, the deformed calluses of which could well diminish the sensitivity to touch, a sensitivity which though small can nevertheless be valuable. (Calluses are also due to the erroneous way in which the fingers are removed from the strings after having played.)

As soon as the function of the finger has terminated, all effort must cease. The ensuing relaxed attitude of the finger *does not imply that it lifts itself; instead, it should be lifted* or taken away from the fingerboard by the arm, the thumb being used as a point of contact that permits a small and gentle movement forward.

Once again can be seen a key element in the development of instrumental technique. In this case it is relaxation, highly favored because it is the arm that is responsible for removing the fingers from the strings.

Accordingly, the fingers should not take off on their own but rather should *allow themselves to be lifted perpendicularly from the fingerboard.* (Clearly, if the action were to come from themselves, an effort would be implied on their part.) In addition to being appropriate for the fingers to be relaxed when the arm is to remove them gently, the *perpendicularity* referred to does away with those *secondary noises* that are likely to be produced by friction against the string.

Releasing the fingers is effected by having the arm move slightly out and upward to control and direct the action in a way that maintains the hand within the range of the fingerboard. An interesting parallel exists in piano technique: the pianist in withdrawing his hands lifts them upwards from the keyboard rather than sliding them off towards himself.

CHAPTER VIII

LEFT HAND—PART TWO LONGITUDINAL TRANSLATION OF THE HAND

A. **POSITION**

B. **TRANSLATIONS**

C. **SECTORS OF THE FINGERBOARD**

D. **TOTAL VS. PARTIAL TRANSLATIONS**

E. **DIVISIONS ALONG THE FINGERBOARD: (Points of Reference)**

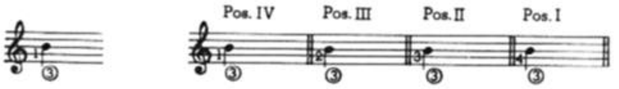
A. POSITION

The length and width of the guitar neck, where the action of the left hand takes place, pose certain difficulties that may not arise in other stringed instruments where the field of action is reduced (due to their smaller fingerboards). Sometimes, a musical passage requires the hand to effect position changes from one end of the fingerboard to the other. The guide and point of reference for these changes can be the index finger because it is by nature endowed with an ability to orient—each displacement should be linked to a natural sense of orientation so as to be able to reach any distance without delay.

Close cooperation between the wrist and the arm is absolutely necessary when performing changes of position, their conscious use being vital in giving the movements a freedom and reach that would be unobtainable by the work of the hand alone.

POSITION will be defined as *the location of the left hand in relation to the frets on the fingerboard.* Specifically, if the first finger is placed at the first fret, the hand is said to be at the first position; if it is at the third fret the hand will be at the third position, and so on for the rest of the semitonal divisions on the fingerboard.

For example, if the first finger stops the note B at the 4th fret of the G string the hand is said to be at the fourth position, whereas playing the same note with the second finger corresponds to the third position. Similarly, this B stopped by the 3rd or 4th fingers corresponds to the second or first positions, respectively (Example 1).



Example 1

It can be observed in all these examples that the nomenclature for each position depends exclusively on the fret at which the *first finger* is located and that Roman numerals are used to indicate the location or the changes of position of the left hand. It is convenient to point out that the first finger always determines a position *even when it itself is not on the fingerboard.*

B. TRANSLATIONS

In this text, a change of position will be referred to as a TRANSLATION. Playing an important role, the arm actively effects all changes of position, and this to such an extent that its activity must always be conceived of *first.* The fingers, strictly speaking, do not participate in the actual translation: only after the arm has completed its task are they to be placed on the fingerboard where they begin their own activity.

Nevertheless, there are two different yet parallel situations that can be defined. One of these refers to the specific translation that corresponds to the arm; the other is related to the disposition of the fingers which, for their new location, must form the necessary angular separations between them in midair.

Prior to actually beginning a translation, the fingers must first *abandon* the strings (an act which, it will be recalled, is performed by the arm). In this way, the friction that is responsible for the squeaking and annoying sounds (produced when the fingers, scraping laterally against the string, attempt to locate their new position on their own) can be eliminated. These distracting noises result when the preliminary and crucial step in any translation is ignored: *the arm* must remove the fingers *perpendicularly* from the fingerboard. This releasing of the fingers, so intimately linked to the activity of the arm, is almost imperceptible to the eye—*but it must nevertheless exist.*

The mechanics involved in a translation is composed of two complementary elements, the principle one of which is the task of the arm. The other element concerns the finger(s) which must in no way obstruct this task, and which should release its (their) pressure on the string a tiny fraction of a second before the actual change of position.

There is of course the special case of the *glissando* (portamento). Relying on its own mechanical activity, the finger maintains pressure on a string while gliding from a given note to another. It should be clear that this technique (which can be used tastefully for expressive purposes) is essential for performing the various types of portamento; it should not, however, because of one's inability of using the arm (or the wrist in certain *partial translations*— see below) be a crutch on which depends the transferring of the hand and fingers to different locations. Thus, in this way the concept of "guide finger" becomes outdated.

Just how do the fingers perform during a change of position? The answer is that they simply do not perform. *Upon withdrawing their pressure* from the string, they momentarily enter into a necessary state of relaxation (and the same can be said of the thumb). The fingers must in no way interfere with the functions of the arm but rather allow themselves obediently to be lifted (perpendicularly) by it from the fingerboard *before* being transported immediately afterwards to their new location. (A striking exception will be considered in Chapter XIV. It refers to the act of leaving the strings and yet remaining in what can be called an unstable state, one in which the fingers must maintain a certain effort to conserve their distention or contraction.)

Left hand translations on the fingerboard can be grouped into three different categories: by substitution, by displacement, and by jump.

1. Translation By Substitution

As its name indicates, this is a change of position by the hand involving the substitution of one finger (or fingers) by another at the same fret. Consequently, the translations by substitution exist for *nearby positions* which can be defined as those found within the range of the four fingers when presented longitudinally.

N.B. The common element here is the fret.

2. Translation By Displacement

In this type, the same finger(s) is (are) displaced to a new position. These translations can be effected to nearby or to distant positions. A *distant position* is one that surpasses the normal range of the four fingers.

N.B. The common element in this situation is a given finger or fingers.

3. Translations By Jump

The hand must "jump" from its initial position to an unrelated one: the finger neither displaces nor is substituted. Thus, the new location to which the hand must go has no common element with the previous one to serve as a guide.

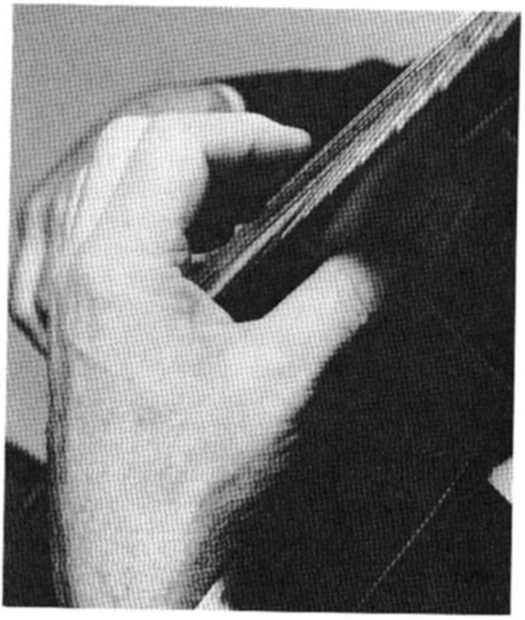


Fig. 1
Hand at 9th Position

C. SECTORS OF THE FINGERBOARD

The entire fingerboard can be divided into three sectors according to the L.H. mechanics employed.

1. *The Sector of the First Octave* ranges from the first right through to the ninth position at which the fourth finger reaches the 12th fret (octave). *Mechanics:* The arm can perform its translations totally unhindered while the thumb naturally follows suit (Fig. 1).
2. *The Transition Sector* relates to Positions *X, XI,* and *XII*. *Mechanics:* In going from the ninth to the tenth position, the hand (during longitudinal presentation) enters a new sector. With the arm located as in the first sector, the hand here will encounter the lower side of the guitar. This will present no obstacle if the arm is brought a little forward to facilitate the reach of the hand, a movement that can be made with much ease if the shoulder is lowered slightly at the same time. Positions XI and XII would of course require that these motions be somewhat amplified. (It can be recalled from Chapter I that movements of the body should be employed without restraint whenever they can be of service to the left arm and hand.)

   As a natural outcome of these movements, the thumb tends to displace itself downward on the back of the neck (Fig. 2).

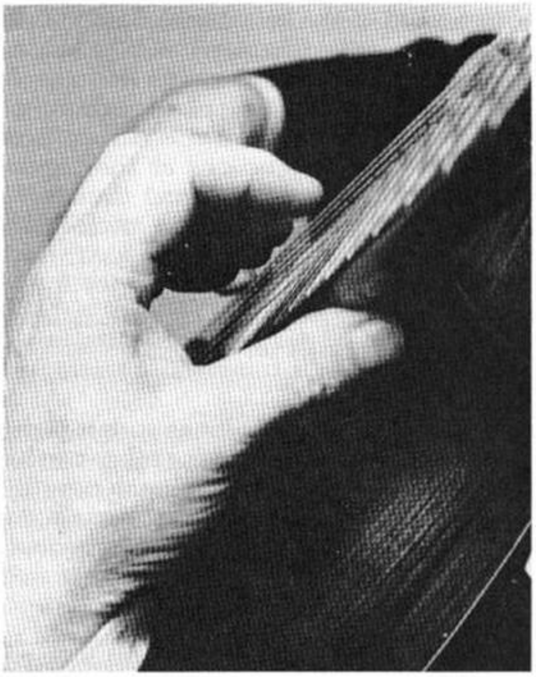


Fig. 2
Hand at
10th Position

3. *Sector of the Second Octave* includes the 13th and remaining positions.

Mechanics: The movements initiated in the transition sector take on paramount importance here. As a result of the displacement of the arm, the hand will have totally overcome what has traditionally been considered an obstacle, the lower side of the guitar (Fig. 3).

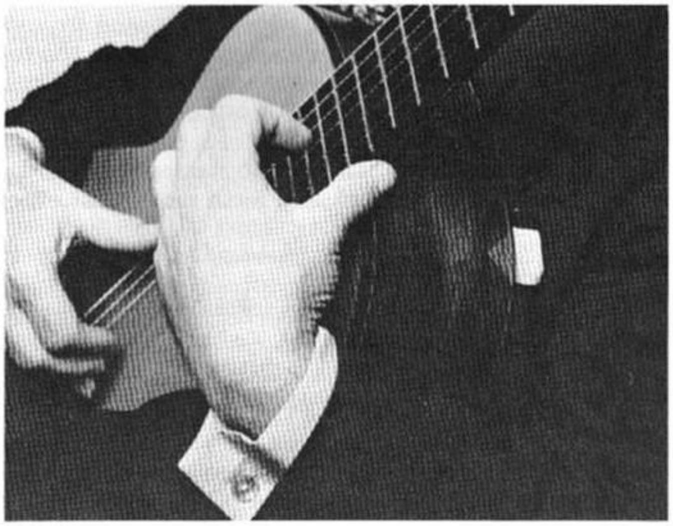


Fig. 3
Hand in Sector
of the Second
Octave

Now the movement of the body forward and towards the left (generated by the motor elements, Chapter I) will be able to influence directly the correct placement of the hand on the fingerboard, and in a way as natural as if the action were taking place within the first sector.

The active participation of the arm is still necessary for translations in the third sector where it functions as the regulator of the angular separation between the index finger and thumb. The latter, in being placed at the meeting point between the neck and body of the guitar, becomes in this way a flexible and docile axis which serves as a light contact point as well as a point of reference for whatever movement and displacement the hand makes.

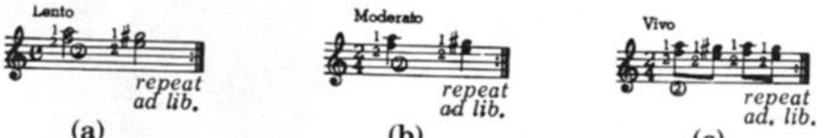
The mechanics described for this last sector apply when the hand is in *longitudinal presentation;* a transversal presentation does not necessitate this type of mechanism.

The naming of the *transition sector* as such is justified by the fact that it has points in common with each of the other two sectors. *It is linked to the sector of the first octave* because the thumb can still be displaced freely (having no obstacles in its trajectory) and remain docile to the translations of the arm. *It is linked to the sector of the second octave* because the arm is already moving forward, beginning to overcome the lower side of the instrument.

D. TOTAL VS. PARTIAL TRANSLATIONS

The translations discussed above in Section B can be appropriately referred to as *total translations,* defined as changes of position which involve the *entire* motor complex arm-hand-fingers. Now taking a look at what is called *partial translation* or the displacement of only a *part* of the motor complex, *two types* will be examined.

1. *As Related to Structural Conditions* (hand-guitar relationship). The typical example is in the sector of the second octave where the thumb, which does not directly participate during translations, only serves as a point of contact by being placed at the angle formed by the body and the neck of the guitar.
2. *As Related Directly to Movement.* Consider Example 2: as control is gradually lost when the to and fro movement is accelerated, it would be necessary to mutate the total translation into one that is partial so as to avoid instability at high speeds. In this concrete example, it is beyond a certain speed that it becomes crucial to make use of a partial translation; this is effected by keeping the thumb stationary in order to allow the hand to make its back and forth movement efficiently.



(a) Total

(b) **Example 2**

(c) Partial

It may be remarked that the *extent* of the displacement by the hand does not in itself determine whether a translation is partial or total. For example, starting with the hand in a given position, it is possible to displace the four fingers to higher or lower positions *without necessarily changing the location of the thumb and therefore without effecting a total translation.* In contrast, there are situations (e.g., the minor scales of Cuaderno No. 1) in which *even the smallest displacements by a single finger require a total translation.*

E. DIVISIONS ALONG THE FINGERBOARD: (Points of Reference)

Man has a natural facility for clearly and immediately perceiving items or divisions grouped in pairs. The task of readily apprehending a given quantity of them becomes difficult when the number of items is increased.

With the sector of the first octave having 12 semitonal divisions, the difficulty of isolating each fret should be apparent. Furthermore, it is not possible to acquire complete and rapid control in accurately locating various distances if each unit were to be considered equally important in usefulness and quality.

If, however, different grades of importance were to be attributed to different frets, the problem would be partially resolved, thereby making it possible to effect the necessary translations with greater facility and control. For the sake of convenience and mental discipline, the following points of reference can be established.

Basic Positions in Order of Importance.

1) Position I (basic point of reference)
2) Position V (halfway along the first octave)
3) Position VII
4) Position III (equidistant between positions I and V)

There are thus four basic positions in the sector of the first octave.

Secondary Positions (derived from the above).

Position II (Position I + 1)
Position IV (Position III + 1)
Position VI (Position V + 1)
Position VIII (Position VII + 1)

The ninth position can be considered natural since the contact between the guitar body and the hand acts as a guide. This position, therefore, poses no problem of orientation.

Position X requires a small forward movement of the arm. The same applies to the remaining positions of the transition sector, XI and XII but with a greater participation of the arm and body.

Position XIII belongs to the sector of the second octave and from here onwards (save for rare exceptions) the orientation relies on the amount of separation between the thumb and index finger.

CHAPTER IX

MAJOR AND MINOR DIATONIC SCALES

Explanation for Cuaderno No. 1

A. LINKING POSITIONS

B. SCALE GROUPS WITH SIMILAR FINGERINGS

C. ANGULAR SEPARATION BETWEEN THE FINGERS

D. REASON FOR THE GIVEN FINGERINGS

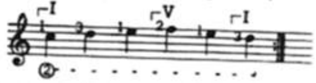
E. PREREQUISITES FOR THE STUDY OF SCALES

The main purpose for studying scales in the development of instrumental technique centers around learning to change positions (to effect translations) correctly. It is advisable to commence with the major scales since they involve only one form of translation (by jump). As the minor scales make use of two forms (by jump and by displacement) they should be studied only after the major ones have been well assimilated.

A. LINKING POSITIONS

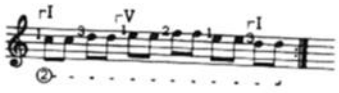
Position links shall be defined as the assembly of notes formed by the last two notes in one position and the first two in the next one. The following translation by jump from 1st to 5th position in the C major scale serves to illustrate this point (Example 1).

Example 1



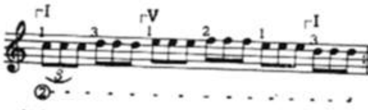
It is useful to turn this into an exercise which is to be repeated several times while maintaining a strict metrical pulse (with or without metronome). At first, there may exist a break in sound (a blank) between the D and the E. The individual with a fine ear should be capable of detecting any such interruption, a problem which could be tackled by replacing each quarter note of the preceding example by two eighth notes (Example 2).

Example 2



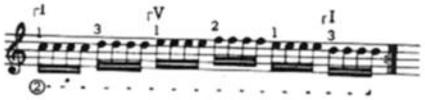
This modification requires a faster, more careful translation since less time is available for it. Once this is assimilated, the quarter note can now be subdivided into three whilst maintaining the same metrical precision as in the beginning (Example 3). This step involves a tighter shift due to the narrowing of the "blanks."

Example 3

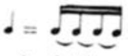


The interval during the position change can now be compressed further by playing sixteenth notes (Example 4).

Example 4

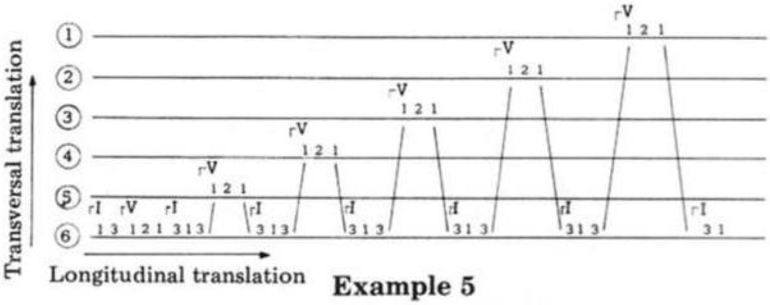


In this phase the individual must be very alert and ensure precision in his execution.

The next step would be to tie these four notes,  thereby allowing the recently acquired mechanical (muscular) ability to be used in order to give each note its full value. It is wise to develop the habit of making a translation *at the exact moment* required by a position change since playing the new note in anticipation would deprive the previous one of its total duration.

Seen in this way, the importance of scales becomes evident. It is through this that they acquire true mechanical value. Because of the problem that is presented when translating the hand, position links are isolated and studied apart. If it is understood that the duration of a note—its sound—must not terminate until it is time for the next one (uninterrupted succession is the ideal), it should also be clear that this mental attitude must become strongly associated with a corresponding muscular memory. The process must be performed as many times as needed until the initial mental effort gives way naturally to a *positive habit* (conditioned response), in the end the coordinator of the exact movements. What is produced is the linking of positions in such a flowing and subtle manner that the translation takes place (audibly) unnoticed.

Once this mechanical situation is internalized, it is no longer necessary to repeat and repeat without reflection for the purpose of overcoming obstacles in a merely machine-like way; rather, they should be subjected to the development of positive habits (as has been discussed in Chapter III). In a further modification of the preceding exercise, the longitudinal translations may be complemented by transversal ones as in Example 5. Note that the same position link of the C major scale has been selected for this purpose.



Example 5

It is fundamental to bear in mind that a sequence of events is involved in every translation. First, the position must be arrived at and then, as a consequence, the finger performs, thereby eliminating the false concept of "guide finger."

B. SCALE GROUPS WITH SIMILAR FINGERINGS

When beginning to study the scales it is convenient to assemble them in groups of similar fingerings for the purpose of facilitating and understanding better the mechanics involved. The *major scales* form three different groups:

1. C (Do), D♭ (Re♭), D (Re), E♭ (Mi♭), E (Mi), F (Fa).
2. F♯ (Fa♯), G (Sol), A♭ (La♭).
3. A (La), B♭ (Si♭), B (Si).

and so do the *minor* ones

a. G (Sol), G♯ (Sol♯), A (La), B♭ (Si♭), B (Si).
b. E (Mi), F (Fa), F♯ (Fa♯).
c. C♯ (Do♯), D (Re).

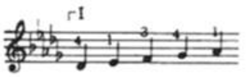
The two scales that remain, C (Do) minor and D♯ (Re♯) minor belong to none of the preceding groups and should therefore be studied separately.

There are two factors which are responsible for slight variations in the fingering of scales within the same group: (1) the use of open strings, and (2) differences in range (two or three octave scales).

1. Open Strings

As a model for Group 1 let us take the D♭ major scale which has no open strings. It begins with the 4th finger in Position I and presents the fingering shown in Example 6.

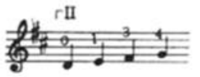
Example 6



Now if the same fingering were to be transferred to the scale of C major, the C would be played by the fourth finger (5th string, 3rd fret); the open D would theoretically require the first finger to be placed behind the nut; and the E and the F would be played by fingers 3 and 4, respectively. This fingering obviously should not be taken seriously; the correct one takes into consideration the open strings and necessarily begins 3-0-2-3, as indicated in Cuaderno No. 1.

The D major scale differs slightly from that of the D♭ by making use of the open fourth string for the first note D, and yields the following fingering (Example 7).

Example 7



Within the major scales, Group 3 (A, B♭, and B) shows variations in the first sector (first octave), while the remainder proves to be identical. The differences in fingerings are due to the use of open strings.

2. Range

E and F major are included within group 1 even though they comprise three octaves instead of two as in the remaining four scales, and this introduces another variant to scale groups with similar fingerings. Naturally, the difference owes itself to the additional sector of the first octave which contains a fingering for each of the two scales in question.

Reiterating, the variations in fingering for scales within the same group are due to the use of open strings and the number of octaves employed; barring these differences, the scales should be identical.

The example of Group 2 of the major scales (F♯ , G, and A♭) confirms the above: they are *exactly the same* because they have the same range (three octaves) and no open strings; only the positions employed differ.

C. ANGULAR SEPARATION BETWEEN THE FINGERS

For the playing of scales, each position requires a *different amount of angular separation between the fingers.* As diatonic scales are made up of notes in step-wise fashion, *the presentation of the hand is necessarily longitudinal.* With the hand presented longitudinally in the first position, the fingers in their most natural attitude cover no more than three frets; notwithstanding, the same array in the higher positions will naturally coincide with four frets. This leads to the formulation of the following rule: *the angular opening (or distention between the fingers) which is to be actuated voluntarily in the lower positions is an event that must be considered normal.* However, as the hand moves towards higher positions, this voluntary distention has to be *gradually reduced* in order to accomodate the narrower spaces.

This state of affairs for the proper playing of scales implies that there exists a parallelism between the separation of the fingers and the semitonal divisions of the fingerboard. These modifications in the reach of the hand must be effected *in midair* and *prior* to making contact with the string.

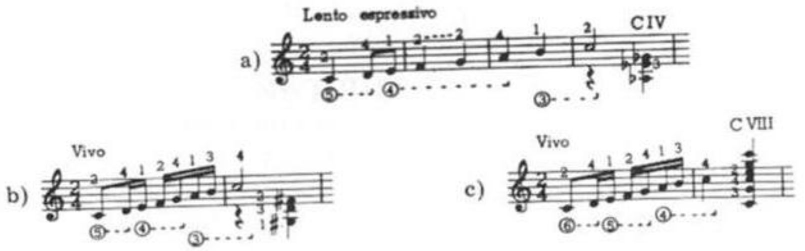
D. REASON FOR THE GIVEN FINGERINGS

A scale should be thought of as something abstract and not as a musical element in itself (though it may sometimes fit in a musical context). As an integral part of instrumental technique, it permits the player to become familiar and at ease with the fingerboard by exploiting certain theoretical notions (tonality) which, though less universal than in the past, still remain valid and useful for the practice of translations.

A scale has to be correctly executed and its mechanical application functional at any tempo; it is this that has motivated the selection of the fingerings that are given in Cuaderno No. 1. By allowing the sectors between each change of position to last *for as nearly as possible the same duration*, the movements of the arm can be controlled more efficiently. This helps to avoid the blocking of or interference with inertia, i.e., it serves to do away with the generation of dead weight. With these fingerings, the attempt to make the translating movements occur *periodically* (from the point of view of how long the hand is to remain at each location) should allow a state of equilibrium to reign as a controlled force in every displacement.

Within a musical context, the fingering for a scale that could and should be used depends on the tempo and the character of the work, and also takes into consideration the possibilities of the instrument. Example 8 illustrates some concrete situations of the use of a scale, here the one of C major.

Example 8

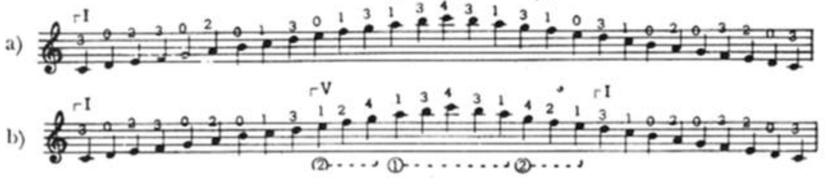


The three factors mentioned above clearly apply to Example 8a. As the *tempo* here is slow, the change of position from 2nd to 4th can be effected (by displacement) with total ease. This fingering also conforms with the expressive *character* indicated, finger 2 performing a portamento on the fourth string. Finally, with regard to the *possibilities of the instrument,* the last C of the scale must without a doubt be played on the G string (with finger 2) in order to make available the chord that follows.

Examples 8b and c are self-evident.

Looking at the scale from other aspects, however, *other criteria* may well be necessary. In example 9 can be compared two different fingerings for the scale of C major in two octaves.

Example 9



Performed at a slow tempo, neither of these presents any technical problems and therefore both can be considered correct. On the other hand, when the scale is performed in repeated fashion and at a faster tempo, the change of position *in view of the speed* proves more difficult. In example 9a can be noted a disequilibrium or a loss of control due to the lack in regularity of the changes. In the process of playing a scale, it must not be overlooked that whereas the fingers are in continuous motion, the hand moves *only* at the movement when the arm takes it to the new position, *where it will rest* until the next change is required.

These fingerings for the C major scale make use of two positions on the fingerboard, first and fifth, and it is preferable to try to equalize the moments of rest of the hand and allow it, so to speak, to be parked for equivalent periods of time. The back and forth movement of the arm can be controlled with greater efficiency *when the duration of the sectors in between changes of position is as similar as possible.*

Upon examination, it is obvious that there is no balance between the two sectors in Example 9a: the first position contains twelve notes while the fifth only five. Consequently, this fingering does not favor the development of great speed with freedom and ease, and whatever result is obtained in this way would be the fruit of the expenditure of useless energy. Example 9b shows the fingering for which one must therefore opt.

In conclusion, when looked at from a *purely mechanical standpoint,* the fingering selected for any scale should take into account the notion of *periodicity: the translating movements should be spaced at regular intervals with respect to the amount of time the hand remains at each position.*

E. PREREQUISITES FOR THE STUDY OF SCALES

N.B. What follows is *not* in order of importance.

1. Longitudinal presentation of the left hand.
2. Angular separation between the fingers corresponding to their placement on the fingerboard (range of the hand).
3. Familiarity with the different translations.
4. Participation of the arm in the transversal displacement of the hand.
5. Total and partial translations.
6. Knowing the divisions along the fingerboard and the respective mechanics employed.
7. Movements of the body associated with the different sectors of the fingerboard.
8. Use of precautionary dampers (to be discussed in the following chapter).
9. Appropriate attitude of the right hand, i.e., the assimilation of the material in Chapter II in its totality.

CHAPTER X

DAMPERS AND VIBRATO

A. **DAMPERS AND THEIR MECHANICS**
  1. Direct Dampers
  2. Indirect Dampers
    a. Right hand
    b. Left hand
  3. Precautionary Dampers
    a. During changes of position
    b. In descending slurs

B. **VIBRATO**
  1. Longitudinal
  2. Transversal

A. DAMPERS AND THEIR MECHANICS

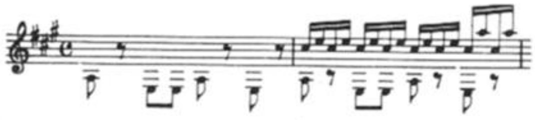
Being able to put an end to a sound at any instant is no less important than knowing how to produce it. A wide variety of situations calls for the stopping or *damping* of the resonance of a note: (a) some of these are directly related to the music and to what is written—the value of a note (be it a half note, quarter note or whatever) in certain works must have a precise duration for reasons pertaining to the harmony, the meter, etc. Even a rest, i.e., silence itself, may be brought into the foreground by giving it a role within the temporal factor as real and as strong as that of sound itself. (b) Others derive from the actual nature of the guitar: translations must be performed unnoticeably; the sounding of an open note(s) upon the release of a string(s) needs to be voluntarily avoided; squeaks and other uncalled for noises should be prevented, etc.

Imperfections in technique often give rise to discrepancies between the intended and what is actually produced. Intrinsic to the interpreter, therefore, must be a keen sense of the true essence of music.

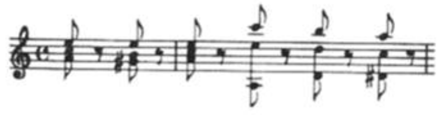
1. Direct Dampers

A *direct damper* can be defined as that action which stops the sound of a note using the same finger that made it. In both examples below, the eighth note rest in an indispensable element in the rhythmic structure for both Coste (Example 1) and Sor (Example 2).

Example 1
Napoleon Coste, Study No. 22



Example 2
Fernando Sor, Study in A minor



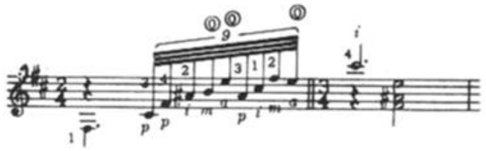
As ignoring the function of the rest here would deform the very nature of these studies, the intelligent and subtle use of dampers should be put into play.

2. Indirect Dampers

The finger (or fingers) that stops a sound, when different from that which produces it, is referred to as an *indirect damper*. Dampers of this type can be performed by the left as well as by the right hand.

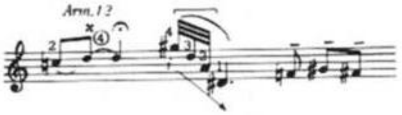
a. *Right Hand*

Example 3
Abel Carlevaro, Prelude No. 3, Campo



In order for the high C♯ in Example 3 to be heard neatly and without interference, the brief 9-note arpeggiated chord has to be damped at the precise moment that the melodic note is played by the index finger. The thumb serves to stop the resonance of the remaining strings by placing itself lightly and in lateral position over them.

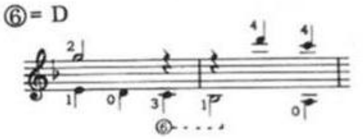
Example 4
Abel Carlevaro, Cronomías I



In Example 4, as soon as the index finger has performed the rapid succession of notes ending in the low D♯, fingers *i, m,* and *a* are placed on strings 3, 2, and 1, respectively, in order to damp them.

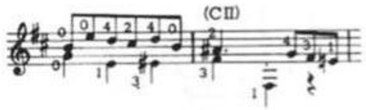
b. *Left Hand*

Example 5
Sanz-Carlevaro, Españoleta



Finger 3 in Example 5 not only plays the C on the sixth string but also acts simultaneously as an indirect damper: flattening itself enough to allow for a light contact with the 4th string, it mutes the open D. Following this, finger 1 helps to bring back the hand to its correct position—it had been modified for damping purposes—by acting as a pivot when it plays the B♭.

Example 6
J. S. Bach, Sarabande



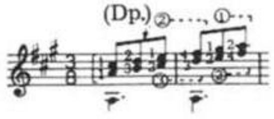
As the A♯ in the second measure of Example 6 is played, finger 1 extended in the form of a barré (without actually being one) touches the second string lightly in order to avoid the open B interfering with the interval F♯- A♯.

3. Precautionary Dampers

As the term indicates, *precautionary dampers* are those which are used to prevent possible noises and other unwanted sounds, some of which are caused by the sounding of an open string during a change of position, i.e., when abandoning a string(s), and others by accidentally putting in motion an adjacent string as, for example, when performing descending slurs.

a. *During Changes of Position*

Example 7
Fernando Sor, Study in A Major



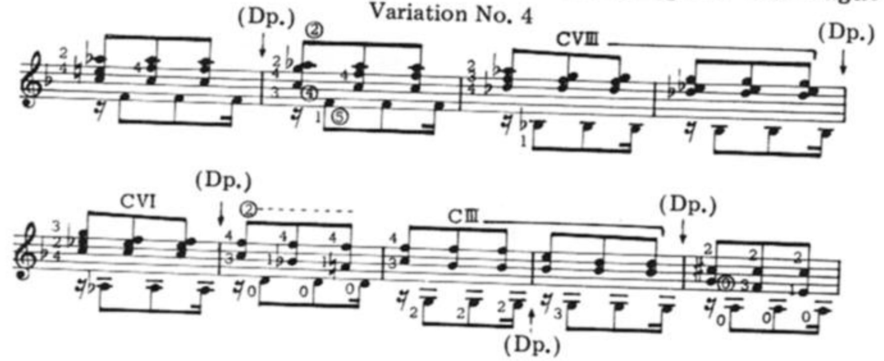
When the left hand effects a change of position the right hand plays a very important role. As the pressure of the L.H. fingers is released, it is the fingers of the right hand that must eliminate (by damping) the sounds that could tarnish the music at the moment of the translation.

There are three well-defined stages during a change of position: (1) the initial attack of a note or notes; (2) the prevention of undesired sounds by placing the R.H. fingers on the strings at the moment that the L.H. fingers abandon them, i.e., when the translation is actually initiated; (3) the attack of the new note(s) after having avoided any unnecessary delay during the momentary release of the fingerboard, creating a sensation of a true legato whenever the music calls for it. In certain passages which require the left hand to jump from one chord to another, it can be seen that the three stages outlined are necessary if the superposition of notes is to be avoided (when harmonic purposes prohibit the sounding of the open strings).

Clarity must be preserved at all times, keeping clear of the confused mesh of sound during harmonic changes and during the movement of voices in general. In Example 7 the index and middle fingers—in addition to playing in parallel thirds—function as precautionary dampers (Dp.) *during the change of position* but with such precision that the net effect is one of legato. With respect to the passage in Example 8—one of many like it in the work—it would be useless to try to play this variation neatly without the correct and intelligent use of precautionary dampers.

Example 8

Manuel Ponce, Variations on "Folía de España" and Fugue

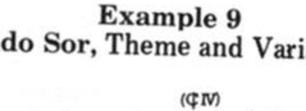


*b. In Descending Slurs**

Finger 1 which participates in the indicated slur in Example 9 must also act as a precautionary damper. This is to say that in its double function this finger places itself, *and only at the precise moment,* in what actually is a barré form in order to avoid accidentally sounding the adjacent (3rd) string if brushed against during the descending slur. Once the slur is terminated (with finger 2), the damper is no longer needed and the barré can be removed. It is necessary to point out that the so-called *barré* must not go beyond the 4th string: from it the note F♯ is emitted while the third string is damped at the same time by way of precaution.

Example 9

Fernando Sor, Theme and Variations, Op. 3



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* See Chapter XIII.

B. VIBRATO

When properly used, *vibrato* is a legitimate and important part of musical expression. To perform it with total dexterity, a prior knowledge of the different ways of making it is required. The guitar allows for two well-defined forms of vibrato, one longitudinal and the other transversal.

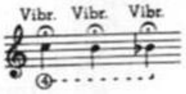
1. Longitudinal Vibrato

Longitudinal vibrato, as the term indicates, is performed by having one or more fingers make a to and fro movement along the length and in both directions of the string.

Procedure. Steady movements of the arm cause the string to be pulled longitudinally in both ways producing a rise in intonation as it is pulled towards the nut and a lowering when pulled in the direction of the bridge. The finger performing the vibrato must be slightly firm *(fijacion* of the phalanx) in order for the movement of the arm to be transmitted to the string; in addition, the thumb should be released from the back of the neck. Through this action the arm is able to apply direct pressure onto the fingerboard via the finger and without any opposition from the thumb.

When *only one finger* is acting on its own as in Example 10, independently of the others, the most appropriate mechanism involves the *fijación* of that finger: the hand in conjunction with the arm can then make the steady back and forth motions that are characteristic of vibrato. The finger nonetheless is in a certain degree of necessary and useful repose owing to the fact that the most direct action is conducted by the arm.

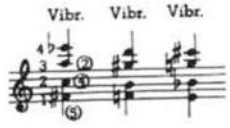
Example 10



When longitudinal vibrato is effected by *several fingers* simultaneously as in Example 11, more pressure is exerted. It may sometimes necessitate the *added opposition of the thumb,* which in this case should remain in contact with the neck in order to combine its own force with that of the fingers. In spite of this joint participation of the thumb and fingers the vibrato is still to be realized by the arm.

In this same example, all four fingers are acting in association; here the vibrato can be effected more slowly so as to permit a more noticeable undulation.

Example 11



In practice, the range of possibilities is wide and it is up to the player to choose from among or combine the above criteria in each specific situation.

Most Favorable Region. Longitudinal vibrato involves both the raising and lowering of the pitch of a note. A graphic representation of this variation in intonation can be seen in Fig. 1.

Fig. 1

To make possible a rise and fall in pitch, however, it is necessary to have a sufficient length of string *on both sides* of the stopped note: this allows the given finger (or fingers) that performs the vibrato to stretch and release the string with little effort. Hence, the most appropriate region for this would be within the central part of the string, i.e., from the fifth fret upward and including the sector of the second octave.

Compare vibrating (longitudinally) the D♯ of the 5th string with the D♯ of the fourth string. The note stopped at the 6th fret permits a full vibrato to be easily obtained; on the other hand, the D♯ of the 1st fret can hardly offer the same effect as it is not possible to stretch the string on both sides.

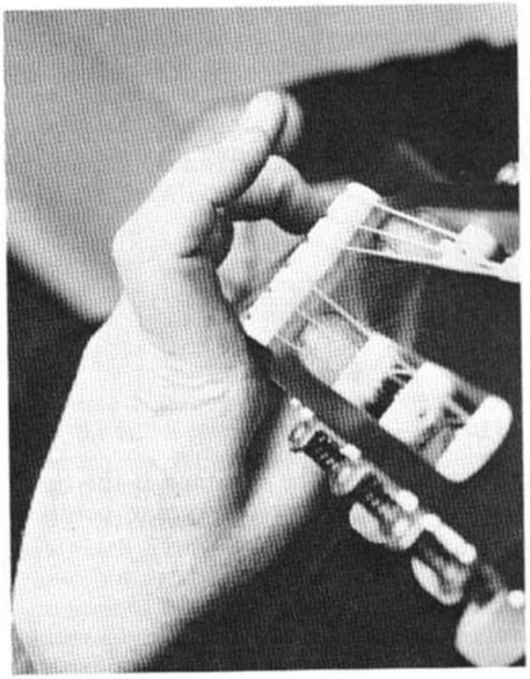
2. Transversal Vibrato

Whereas longitudinal vibrato is generally effected by the direct action of the arm via *fijación* of the finger and with the thumb separated from the neck, *transversal vibrato* is made by the very finger itself and does not call for releasing the natural contact of the thumb.

Procedure. The string is made to stretch *by the finger directly,* towards the palm of the hand and is released in such a way that the movements, which are transversal with respect to the fingerboard, would be periodic and smooth. However, to render this action feasible, a point of *leverage* is required to obtain the force that will overcome the resistance of the string. This leverage point is obtainable from the contact between the lower side of the fingerboard and the *internal arc* that the left hand forms between the thumb and index finger (an arc which, as has already been established in Chapter VII, should be normally kept separated from the neck). This is, therefore, an exceptional situation with respect to the habitual L.H. position.

Certain details regarding the mechanical operation of transversal vibrato should be clarified. When dealing with the bass strings (6th, 5th, and 4th), the presentation of the hand can be such that the knuckle line is more or less parallel to the strings (Fig. 2). However, for a vibrato of this type on the 3rd and 2nd strings, this presentation is awkward since the back and forth movement of the finger (closing and opening) becomes restricted the closer its range of action is to the palm.

Fig. 2



The solution for the treble strings would of course involve a greater separation between the finger and the palm. With the hand slightly rotated (as if it were in transversal presentation), and still using the base of the index as a contact point with the neck (see Fig. 3), a vibrato can be performed with total ease not only on the 3rd and 2nd strings but on the 1st string as well.

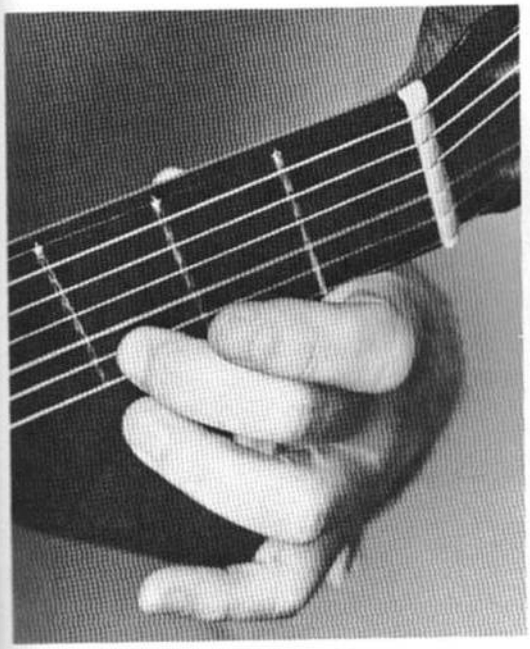


Fig. 3

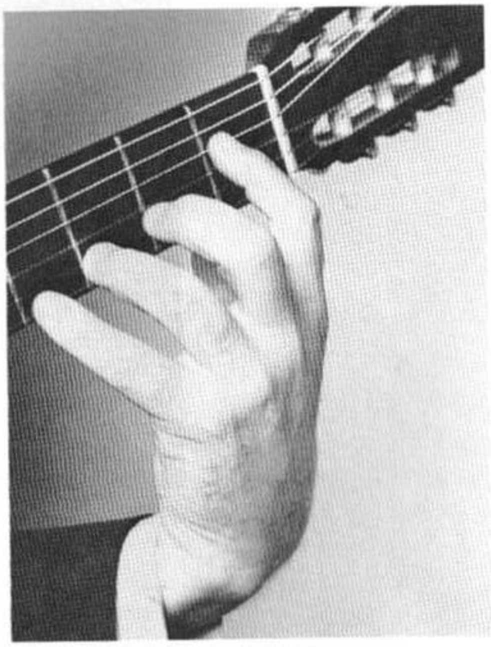
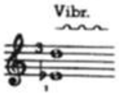


Fig. 4

N.B. This type of vibrato is sometimes desirable in situations which do not allow the hand to be presented transversally, in other words whenever it is awkward to use the internal arc between thumb and index as a leverage point. Examples of this can be seen either when one or more fingers are located on other strings, or when the vibrato must be performed while the index finger is playing another note as in Example 12 (see Fig. 4).



Example 12

The transversal vibrato can now be obtained if the *tip of the thumb* is allowed to serve as the indispensable leverage point when placed as shown in Fig. 5.

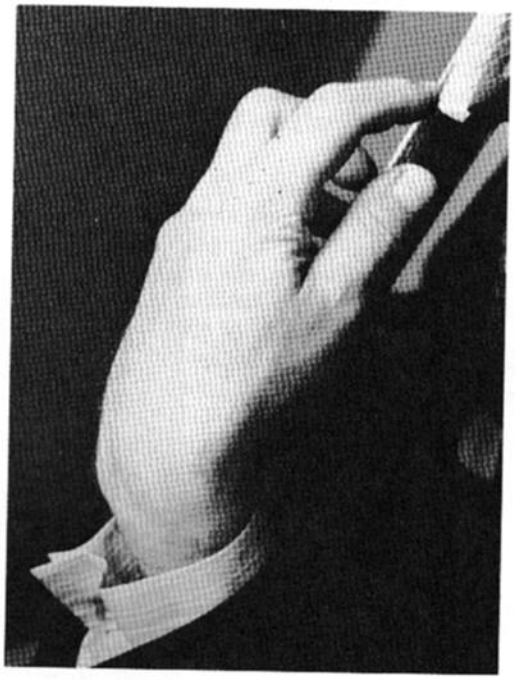


Fig. 5

Most Favorable Region. It should be evident that a transversal vibrato causes the pitch of a note to be altered *in one direction only*—upwards. The amplitude of the ascent can be as large as desired, and the oscillation is made possible when an effort is first applied to produce a rise in pitch and is then released to allow a return to the basic frequency. This acoustic effect differs slightly from that produced by a longitudinal vibrato and is shown represented graphically in Fig. 6.

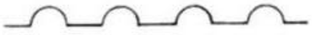


Fig. 6

Transversal vibrato is generally used where the longitudinal one is impractical as, say, for the E of the 4th string—i.e., in the lower positions of the guitar. Nevertheless, it can also be employed quite successfully and with little effort in the upper regions of the fingerboard.

Each to and fro movement, each isolated unit, requires with every return to the basic pitch a repose appropriately thought of as *permanent yet intermittent,* one that serves to reduce muscular fatigue. In spite of the fact that these moments of rest cannot be obtained in their entirety (owing to their extremely short duration), this is the ideal setting towards which each instrumentalist should strive in his quest for greater freedom in his technique.

CHAPTER XI

TECHNIQUE OF THE RIGHT HAND
Explanation For Cuaderno No. 2

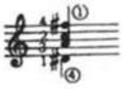
The exercises of the right hand in *Cuaderno* No. 2 of the "*Serie Didáctica*" (*Técnica de la Mano Derecha*) have been put together for the sake of liberating the fingers in their individual as well as in their associated work. At the outset, emphasis should be placed exclusively on the correctness of the movements, the various *Toques* being considered only at a later stage. In fact, it is preferable to begin by playing the formulae only with *toque* No. 1 (libre); dynamics as well as the many timbre shades of *toque* No. 5 will be introduced as the work progresses.

As for the left hand, its participation will be reduced to moving along the fingerboard but keeping a fairly constant arrangement of the fingers. This will help to serve as an auditory check and enable the student, at least in the beginning, to detect any error made by the right hand.

In spite of the fact that the left hand has a subordinate role to that of the right, it seems necessary to point out the way in which the L.H. fingers should be placed so that useless fatigue can be avoided. This would allow one to focus one's attention purely and entirely on the work of the right hand, for this is the general aim of the *Cuaderno*.

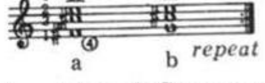
Consider now the placement of the L.H. fingers in the first formula, shown in Example 1.

Example 1



This disposition corresponds to a transversal presentation and can be effected more easily once the muscles of the arm (which, in the final analysis, determine the pattern of the fingers) have been trained. The following exercise (Example 2) in which fingers 2 and 3 remain fixed, can be of help in this respect.

Example 2

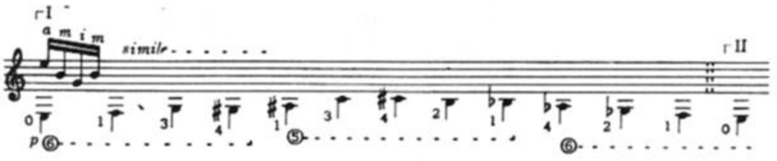


In going from the chord in (a), in which the first and fourth fingers are on F♯ (4th string) and B (1st string), respectively, to the one in (b), one should have the fingers converge whilst in midair by letting the arm perform a rotating movement that changes the presentation of the hand.

PROCEDURE FOR THE RIGHT HAND

The first phase deals with the three fingers and thumb working together at the same dynamic level, and has the aim of liberating them one from the other from a mechanical point of view. Nuances in timbre and variations in intensity are to be left for another stage.

The second phase commences once the purpose of the first has been achieved. A return to the beginning is now called for but this time a melodic design can be attributed to the thumb right through to Formula No. 102 (see Example 3). In this situation, by playing the first, second, and third strings open, greater attention can be paid to the development of the thumb. While *i, m,* and *a* perform on a secondary dynamic level (now feasible because of the previous intelligent education of the muscles), the thumb can be brought to the first plane without the use of excessive force. It is necessary to remark at this point that the greater volume of sound that the thumb produces is a function *not only* of the stroke that it makes; it is also a result of being able consciously (and intelligently) to subordinate the other fingers so that their weaker intensity can serve to highlight the thumb. (The usefulness of this notion for certain types of music which involve the movement of different voices cannot be exaggerated.)



Example 3 Formula 1 with melodic design in bass

In fact, for instruments like the guitar, the dynamic range of which tends to be restricted, bringing out a note from amongst others, contrasting various melodic lines played simultaneously, and designating a singing quality to one finger while the others remain at a secondary plane, are all situations in which dynamic expression emerges not from the act of giving more, but rather from *knowing how to veil* the other voices or transfer them to a subordinate level. There is, of course, the other equally eloquent and rich resource of timbre, that quality which is part and parcel of the guitar; this has already been discussed in previous chapters.

When wishing to overcome a certain technical problem, nothing can be less fruitful than constantly repeating an exercise if the distinguishing element of this repetition is pure physical effort. Even more, let us say that we should move away from and completely discard this method of study. What should concern us, in essence, is the parallelism between the cerebral and the muscular. It is only when an intelligent attitude is given utmost importance during the study of a given exercise that the muscles can assimilate a certain mode of behavior associated with conditioned responses. This should in fact be our working method.

The surest path to positive development is taken when muscular activity is allowed to join forces with an intelligent frame of mind. In addition, greatest profit is reaped when study periods are broken down into short intervals each of great concentration, both mental and muscular. Between every period a brief yet total respite is required, but making sure that when study is resumed, the mental attitude that is *directing* the physical (muscular) process is *never abandoned.* The next step involves the *consolidation* of the movements learned in this way, for now that the engine has been put in motion, all it takes are small impulses to insure that it functions without losing the original inertia. It would not hurt to insist that when each period of concentration is directly associated with muscular effort under the conditions described, the evolving mento-physical bond is strengthened.

Back to the exercises of *Cuaderno 2,* one way to avoid unproductive mechanization is to combine the isolated formulae in a structure that will oblige one to be even more alert. Once the first twelve exercises have been assimilated, it is advisable to associate each L.H. change of position with a different R.H. formula, but without causing delay or breaking the continuity. The same procedure, when applied to the rhythmic variants of the thumb, requires still more mental control, as the linking of all the formulae entails that the inertia inherent to each one of them be broken.

Formulae 73 to 84 can be practiced in two stages. Whereas in the first the rests can be disregarded, in the second they must be considered as an additional factor to be incorporated within the mechanism, one that requires the use of a direct damper (thumb) at precisely the same time at which the note above the rest occurs.

Right up until Formula 102 there has been a specific string allocated to each of the *i, m,* and *a* fingers, namely, the third string to the index, the second to the middle, and the first to the annular. Starting with Formula 103, however, a finger begins to alternate strings while some other(s) serves as a reference point by always striking the same string(s). These exercises requiring displacement and skips help to develop to an even greater extent the independence of each finger and permit the separation between them to vary.

Where "detaching" or "singing" is indicated, the specific note referred to must be made to stand out by using one of the many shades of timbre offered by *toque* 5. This does not imply that the dynamic element cannot be used to highlight certain notes; the expediencies of mechanical training require the use of timbre because it entails that the singing finger take on an attitude different from that of the others. In addition, it is felt very important that the theoretical knowledge so far acquired and the practice of these exercises be integrated.

To the preceeding work should be added a set of exercises which develop elasticity and the function of which is purely physiological. These can serve to enhance the performance of the fingers since their natural stroke excludes the activity of opposing muscles, ones that work in a direction contrary to that of the attack. This will be easier to understand if it is considered that during a normal stroke a finger conducts the return to its initial position with minimal effort, almost in a state of repose. This returning motion will now be given major importance for it shall be performed *with maximum effort and with the greatest extent of movement.* Training the antagonistic muscles (Formulae 198 and 198 *bis*) will help to balance the opposing activities of each finger, the attack and the return, in order to yield greater elasticity and more speed within a short period of time.

In formulae 199 and 199 *bis,* the attitude of the finger takes on a compound role. The first note of each triplet in having to be accentuated requires the employment of a dynamic *toque* (No. 2 or No. 3); the remaining notes are to be played *piano* with *toque* No. 1 *(libre)*.

These exercises of elasticity lead to greater control over the attack and speed of the fingers. Upon reaching Formula 201, velocity becomes the element of major importance (in contrast to Formulae 198 and 198 *bis* which were characterized by slowness and amplitude of movement). In order to obtain a considerable amount of it, however, it must be understood that a state of relaxation has to flow alongside muscular activity, as it is impossible to maintain great speed—and control over this speed—for a prolonged period if the hand and the fingers are in a state of permanent contraction.

The first step in the study of this exercise should be to break down the five positions into five separate laps, with an interval of total rest intervening between each one of them. Every lap—during which relaxation is ignored—should exhaust one's complete muscular capacity. As unusual as it may sound, it will be found that by the end of the first lap (15 to 20 seconds) the muscular potential is totally drained. Let it be clear that during each lap a relaxed state is unlikely to exist because an intense effort is being exerted continuously. Furthermore, the work becomes of real value only when the fatigue induced during this very short interval gives the impression that the task has been going on for a longer period of time. What must be borne in mind is the clear-cut separation between work and repose: just as the former involves *maximum effort*, the repose implies *maximum relaxation*.

By the same token, the remaining laps are to be run in the same way, with the intervals of repose lasting five seconds. The maximum velocity obtained throughout the first lap should be maintained for the remaining ones (i.e., up to the fifth position). As a follow up, a happy medium can be struck between relaxation and muscular work to approach the ideal, two states flowing together side by side in order to bring to the sum total of the individual components the same eloquence contained in a single lap.

Formula 203 introduces the section on Repeated Chords in which the knowledge of the different *toques,* including *toque* No. 5, can be put into practice. Of major importance for these formulae is the ability to differentiate various *attitudes* of the fingers. A particular one should be selected for the singing finger and used to highlight the indicated notes in each of these exercises. The playing of these chords need not be done at a fast tempo. In actual fact, it is preferable to practice these exercises rather slowly, paying great attention to the attitude that each finger must adopt. Only in this way can a quality that is clear sounding and well defined for the singing note (whether it be found in an outer or middle voice) be obtained.

CHAPTER XII

TECHNIQUE OF THE LEFT HAND—FIRST PART

Explanation for Cuaderno No. 3—Translations

TRANSLATIONS

Cuaderno No. 3 of the "*Serie Didáctica,*" *Técnica de la Mano Izquierda,* is concerned with translations of the left hand over the fingerboard. From the very beginning, it is important to realize that all the work involves the development of what has been referred to as *total translations,* which must be performed by working the entire arm-hand complex. At the same time, one should not lose sight of the fact that during the working of this complex, the fingers are to remain relaxed, their only function being to press on the string when required and to accommodate the spacings between the frets. Awareness of the angular separation between the fingers is vital since the attitude of the hand at the first position is not the same as that at, say, the ninth position. With regard to the inevitable time lapse that exists between one position and another the following can be said: *prior to any translation,* the lifting of the fingers which is *also* to be achieved by the arm (Chapter VIII, Section B) must necessarily be taken into account.

It must never be forgotten that *all* translations are to be made *over* the fingerboard, just as a pianist moves over his keyboard. In other words, neither pressure on nor contact with the string must be maintained as this tends to give rise to uncalled for noises. It might be added that were noises to be produced they should be purely of an accidental nature, not some constant factor linked to every movement of the hand.

It is felt necessary to make clear at this point that the isolating of a specific facet of technique, when done with the aim of learning correct movements (muscular memory a posteriori), demands *maximum rigor* during the study period. Otherwise an erroneous mental set which will later develop into a negative habit will be introduced. This implies that the very concept of translations has to be apprehended thoroughly. Through daily repetition it can evolve into something akin to a conditioned reflex as the subconscious gradually assimilates it. Upon reaching this stage, daily insistence would no longer be as necessary; and though more sporadic, the study period must nevertheless involve the same mental rigor.

Logically, it will be found that a given musical passage simultaneously features a number of mechanical problems that cannot always be solved with the same rigor as that to be applied to exercises presented in simple form. (This is due to the fact that what issues from a technical complex, in relation to muscular activity, is not necessarily the same as the sum total of its component parts.) The ideal towards which one should constantly strive is, however, mechanical purity and precision, the foundation on which musical recreation can be built.

CUADERNO EXERCISES

Exercises 1 to 8

Essential factors for the mechanics of these translations.

a. Longitudinal presentation of the hand.
b. Placement of the indicated finger on the sixth string by means of the arm and transversal movement when going from string to string.
c. Angular opening of the fingers: it is to correspond to the inter-fret distance and is not to be abandoned during position changes.
d. Releasing the fingers as a prior step to the translation.
e. Total translation, performed by the arm.

These concepts should guide the work throughout the exercises. When going from one string to another it should be noted that while the arm induces the transversal movement, the finger which stops the last note should be held over until the note on the new string is played, after which the placement of the hand is rectified.

Exercises 9 to 12.

These translations by substitution of one finger on different strings present two new problems. One is the *mixed presentation* of the hand and the other has to do with its *transversal movement.* The latter now takes on greater importance since it is performed with each change of position. This therefore requires an action which combines the longitudinal translation of the hand with a transversal movement for each change of string. Both of these depend entirely on the arm which must place the fingers without any effort whatsoever on their part.

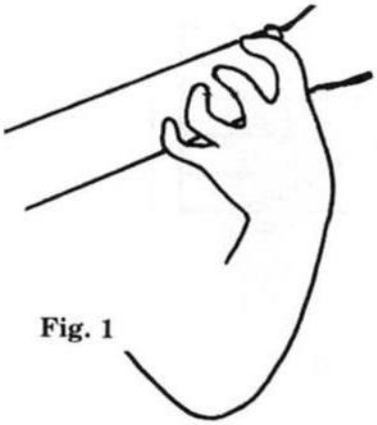


Fig. 1

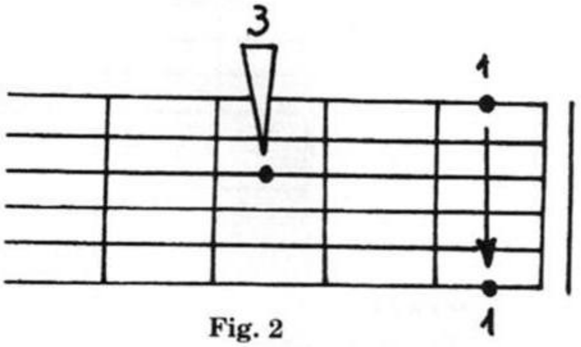
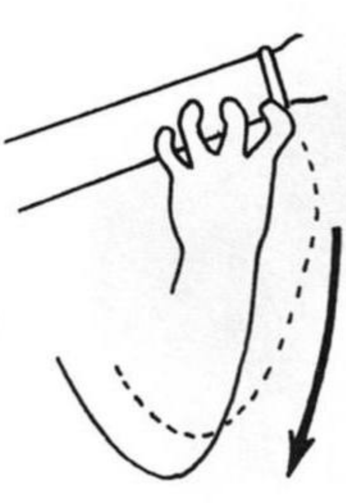


Fig. 2

Exercises 13 and 14.

In both exercises in octaves by substitution of one finger, two new items are proposed: *the transversal movement of the hand* pivoting on a finger while maintaining its presentation, and *the longitudinal translation combined with a transversal movement.* Specifically, once the arm has placed the first finger on the F of the 6th string, the third finger when placed on the 4th string will serve as a pivoting point for the movement that the arm has to make when translating finger 1 to the 1st string (Figs. 1 and 2). As this is to be performed *without affecting the longitudinal presentation*, it should be carefully noted that the movement of the elbow must describe a path that is parallel to the body (Fig. 3). In addition, the position change of the hand (finger 1 translated from F of the 1st string, Position I, to F of the 4th, Position III) also requires a movement involving a compound translation, i.e., longitudinal and transversal at the same time (Figs. 4 and 5).

Fig. 3



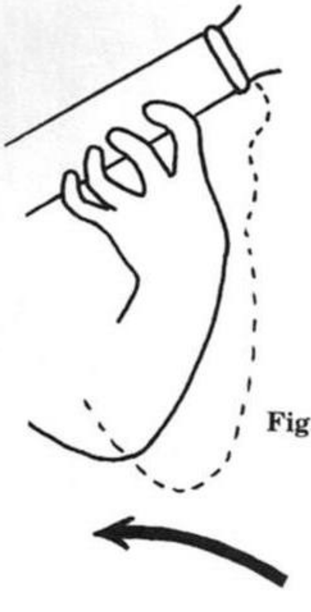


Fig. 4

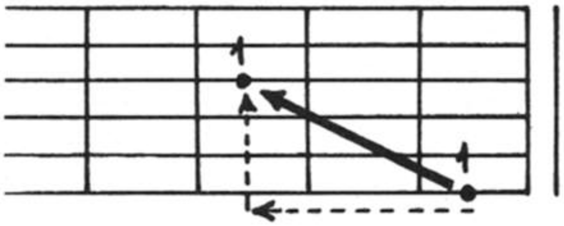


Fig. 5

Exercise 15.

This is performed throughout with the hand in *transversal presentation*. The initial placement of fingers 1 and 2 as well as the ensuing one of fingers 3 and 4 is nothing more than a mere consequence of this type of presentation. The fingers themselves need not make any effort at all in order to maintain their disposition. The same concepts proposed for Exercises 1 to 8 should be applied to these translations by substitution although here the presentation of the hand is totally different.

Exercise 16.

Two new and important elements are introduced one of which has to do with the concept of *combined presentation* (Chapter VII). The other deals with the *barré* and requires that finger 1 press only on the specified strings so as not to affect the others. In this situation with the barré covering from 6th to 4th strings, the L.H. thumb is placed on the back of the neck without difficulty. It is, however, when the barré is moved towards the treble strings that a problem is encountered: the thumb no longer reaches the neck. This could be the basis for a defect that must be avoided—it is inappropriate in this case to bend the 1st finger by taking the hand backwards as in Fig. 6.

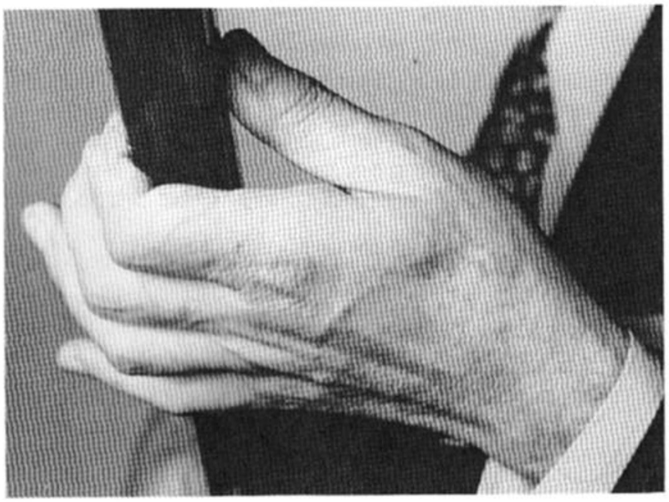


Fig. 6

The correct procedure involves placing the hand so that the tips of the thumb and index can face each other (Fig. 7).

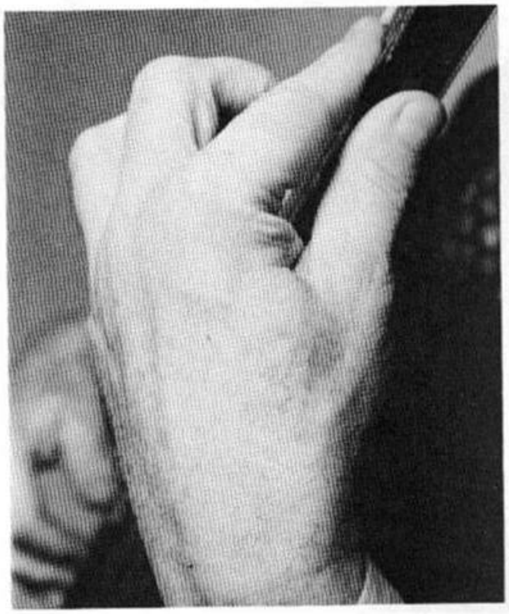


Fig. 7

Notwithstanding, there are other situations in which a small or reduced barré is needed in the vicinity of the 1st string and for which the disposition of finger 1 is often affected. Here it is preferable to bend it for the convenience of the other fingers. *It should be noted nonetheless that the hand does not move backwards but rather to the side* owing to the fact that the elbow (in facilitating a distention or a contraction) proves responsible for this outcome (see Fig. 8 and 9).

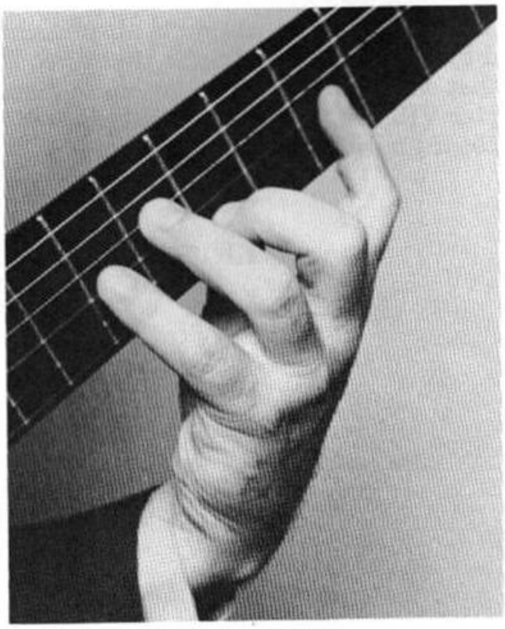
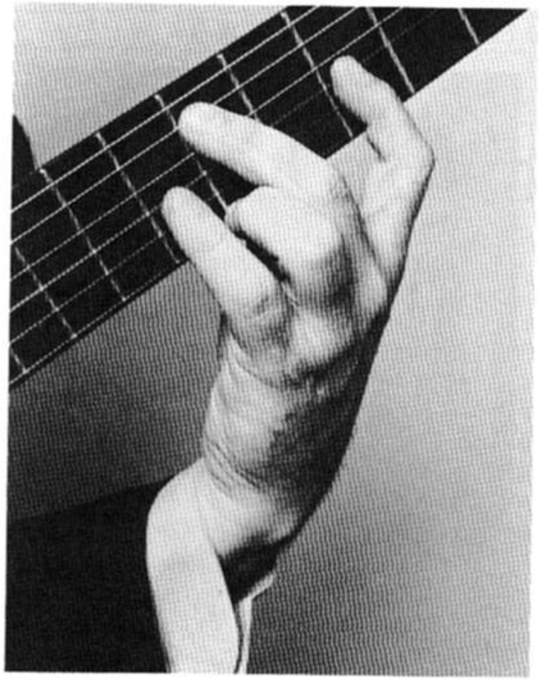


Fig. 8

Fig. 9



Exercises 17 to 22.

As in exercise 16, the same criteria with respect to the barré apply.

Finally, the study of the translations by displacement and by jump should be guided by the general principles that have been discussed. It might be added that when effecting translations to distant positions, the concepts in Chapter VIII referring to the mechanics of the different sectors of the fingerboard must be borne well in mind.

CHAPTER XIII

TECHNIQUE OF THE LEFT HAND—SECOND PART

Explanation for Cuaderno No. 4

Slurs and Trills

A. **SIMPLE ASCENDING SLURS**

B. **SIMPLE DESCENDING SLURS**
   1. Normal Slurs
   2. Slurs by Exception
   3. Slurs by *Fijación*

C. **MIXED SLURS**

D. **TRILLS**

E. **MISCELLANEOUS**

A. SIMPLE ASCENDING SLURS

Cuaderno No. 4 of the "*Serie Didáctica*" is devoted to different problems related to the left hand, and begins with a series of exercises dealing with simple ascending slurs (*ligados*). Here is a brief explanation on how to study Exercise No. 1 (adjacent fingers):

(a) The left hand should be presented longitudinally.

(b) A transversal movement of the hand is required when going from the 6th to the 1st string and back.

(c) Generally, ascending slurs are performed with a *percussive* stroke of the finger, free from rigidity and without *fijación*. (Nevertheless, when greater velocity or force is desired, the assistance of more powerful muscles would be required—see Chapter III, *Fijación*.)

(d) The position change, when ascending chromatically as indicated in the exercise, is to be done by *substitution* (i.e., translation is total). The descent, however, is performed by *distention:* the slurring finger is to remain positioned while the hand makes the descending change so as to locate finger 1 at its new fret. As will be explained in due time in the section on distentions and contractions (Chapter XIV), finger 2 is to be lifted in its distended state, and only after the string is freed should the distention be cancelled. When the effort is released, the finger in recovering its normal attitude will relocate itself accordingly. (In fact, one of the causes responsible for the making of noises (squeaks) has to do with the relaxing of the distending force simultaneously with the lifting of the finger off the string. What must be well observed is that the finger is to *conserve* the angular opening—by not withdrawing the effort that maintains the distention—in order to avoid its slipping along the string.)

From Exercise 4 onwards, the slurs with *non-adjacent fingers* could present a new problem. The greater separation between the slurred notes might give rise to a noise when the finger strikes against the string (and the string against the fret). A greater length of "useless" string segment also tends to increase the slapping sound by producing supplementary vibrations.

This can be easily verified if the musical note is eliminated and the so-called slapping effect is the only thing allowed to be heard. Placing the R.H. thumb as a damper on the 6th string, apply the mechanism for an ascending slur and give a rapid stroke with finger 2 to, say, the seventh fret. Once the given pitch has been annulled, the slapping sound referred to can be heard clearly, together with another note of a distinct pitch corresponding to the undampened length of the string. The same experiment can be repeated using Exercise 6 in which there is a slur between fingers 1 and 4. Again by muting with the thumb, it is possible to listen to those audible elements that must be avoided when wishing to make possible the clear emission of a desired note.

And just how can this problem be solved? Experience shows that attenuating the impact created by the speed of the stroke and applying in its place greater pressure eliminates the noise almost entirely, making it for all practical purposes inaudible. Such pressure is not a consequence of a fast movement; instead it is the direct outcome of employing a muscular aggregate through the use of different *fijacións*. Thus, in this very case (1-4) it should be noted that the strength of the 4th finger does not come exclusively from the finger itself, but rather from a muscular complex in which the hand participates.

The mechanism for Exercise 6. To render possible the action of the 4th finger, the left hand should be slightly raised with the help of the arm in order to favor the use of the muscular group which corresponds to this finger.

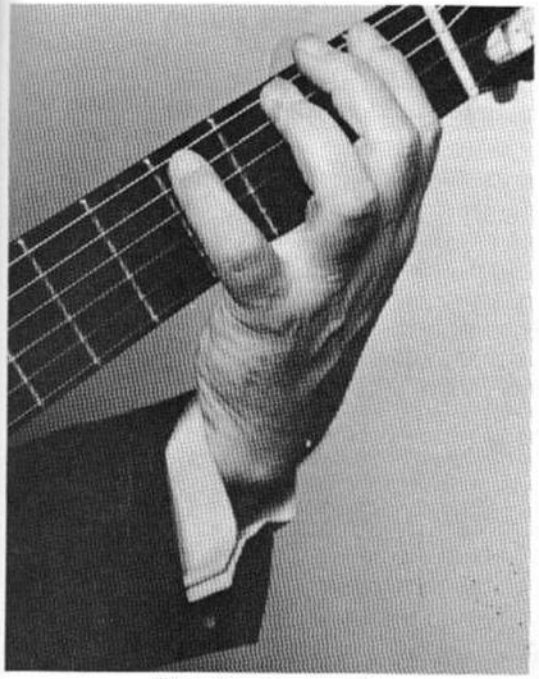


Fig. 1a (wrong)

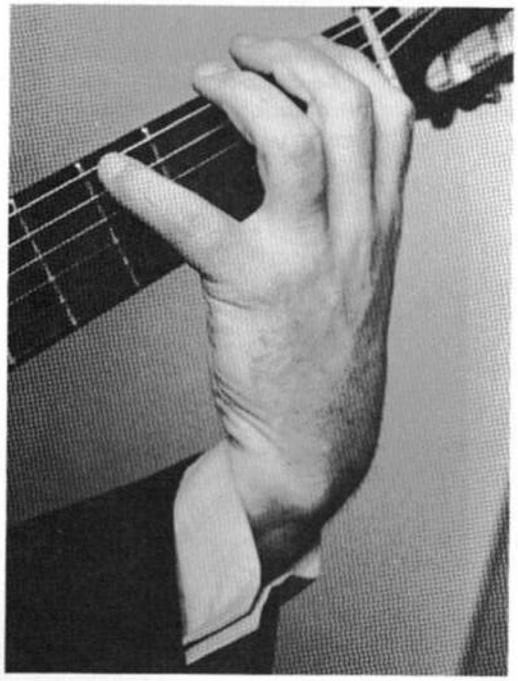


Fig. 1b (right)

The first, second, and even the third fingers are situated on top of the fingerboard from the point of view of their natural placement. The same is not true of finger 4, which because of its own structure finds itself somewhat beneath the fingerboard when compared to its more powerful neighbors. With the fingers thus presented, it can be seen that the musculature of the entire section of the hand which bears an effect on finger 4 is found *below* the level of the fingerboard (Fig. 1a). Under these conditions, the finger performs with its possibilities stunted. To make use of the totality of the muscles and thereby enhance its action, the hand should be placed so that the entire musculature could be located above the fingerboard (Fig. 1b).

In this exercise as well as the others with non-adjacent fingers, the upward changes of position are to be done by *contraction:* after performing the slur, the finger remains stationary while the hand effects the translation. In order to avoid squeaking, this contraction is to be maintained until the finger has cleared the string (in the same way as has been previously explained for the distentions). The descending translations are made as in the earlier exercises, by distention.

B. SIMPLE DESCENDING SLURS

1. Normal Slurs

At variance with the above, descending slurs require the finger to be slightly stiffened with the help of a little *fijación*. Actually, these slurs involve two successive stages. The first is what can be called *action of the finger* by which the string is impelled through friction. The second deals with the *braking of the initial impulse* by which the action of the finger is contained—the next string should not be used as a device for stopping the finger in its consequent trajectory. It is absolutely essential not only to avoid interfering with neighboring strings, but also to abstain from making sounds unrelated to those proper to the slur.

The correct performance of these slurs entails, first of all, the *location of the arm* for this is what will enable the finger to function from the most logical position.

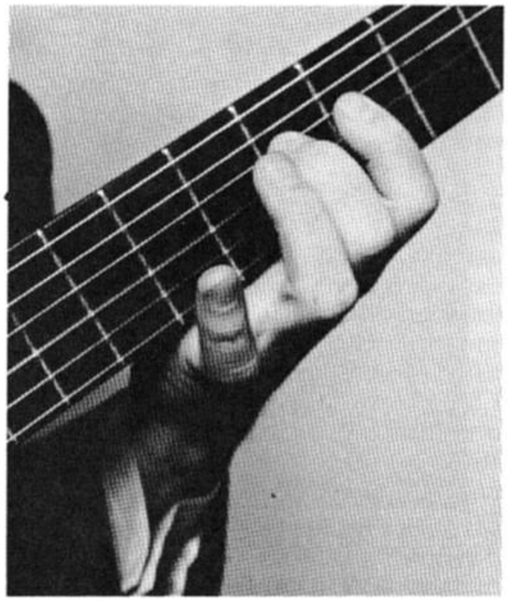


Fig. 2a

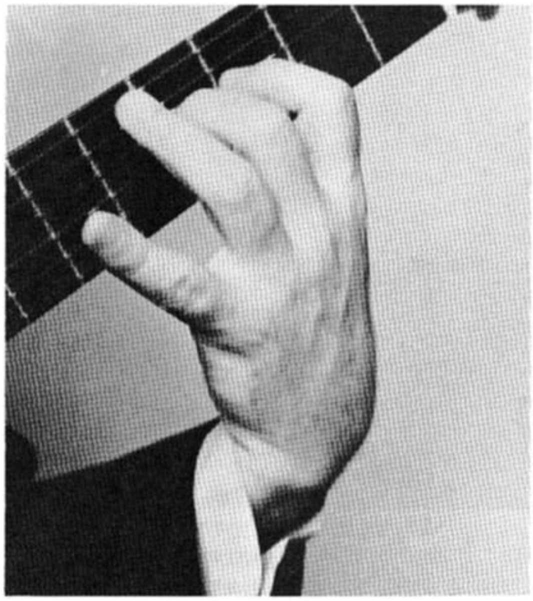


Fig. 3a

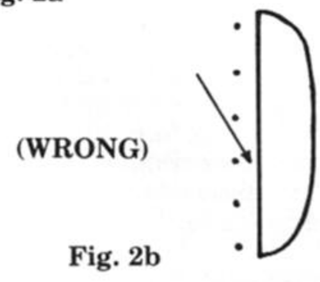


Fig. 2b

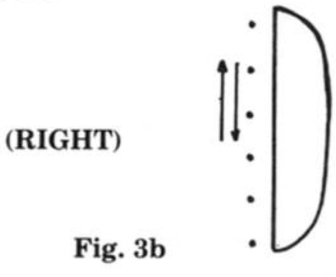


Fig. 3b

From the photograph in Fig. 2a it can be seen that the erroneous placing of the arm causes the fingerboard to interfere with the trajectory of the movement of the finger. In Fig. 3a, the slurring finger, by moving parallel to the fingerboard, finds no obstacles in its path, a situation that permits a more effective execution of the slur. (Compare also Figs. 2b and 3b.)

It is important to compare these two situations in practice so as to discover how the location of the arm proves instrumental in the action of the slur. To complement the vital role of the arm, here follows a summary of the attitude of the finger(s) for effecting normal descending slurs correctly.

(a) The movement of the fingers is transversal to the string, setting it in motion through friction.

(b) Instead of allowing the original inertia to thrust the slurring finger towards the adjacent string—this must be considered wrong—one should restrain it. (N.B. The act of withholding this impulse is intimately related to the one of plucking. Unlike ascending slurs for which the finger is relaxed, descending ones call for a certain rigidity, a little *fijación*, that makes them resemble the R.H. Toque 5.)

2. Slurs By Exception

What has just been analyzed is related to the most common way of making descending slurs. There are some musical passages, however, for which a slur, when performed only with the finger, can prove to be difficult or awkward. Still, by putting the arm into play and employing what shall be called "slurs by exception," more eloquence in the clarity of the sound and greater reliability in the mechanics convert what would have been difficult into something easy. The finger, incidentally, loses none of its influence when it passes to a secondary plane in a related state in order to share its functions with the arm and hand (Fig. 4a, b, and c).

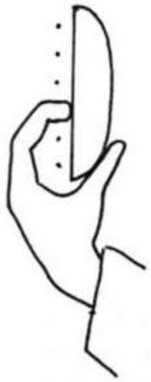


Fig. 4a

Normal attitude of the L.H., at the moment that the R.H. strikes

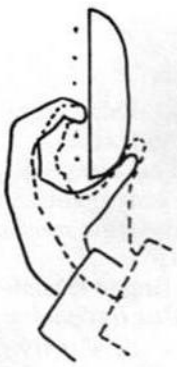


Fig. 4b

Trajectory of the arm in its movement towards its new disposition "by exception".

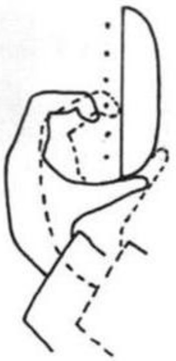


Fig. 4c

After the slur

As for these slurs, it may be pointed out that what has been referred to as "braking the initial impulse" (necessary during the execution of normal descending slurs) is a stage that can be overlooked since the movement of the finger—waiting to "escape"—will not affect the adjacent string during its trajectory (Fig. 5a and b).

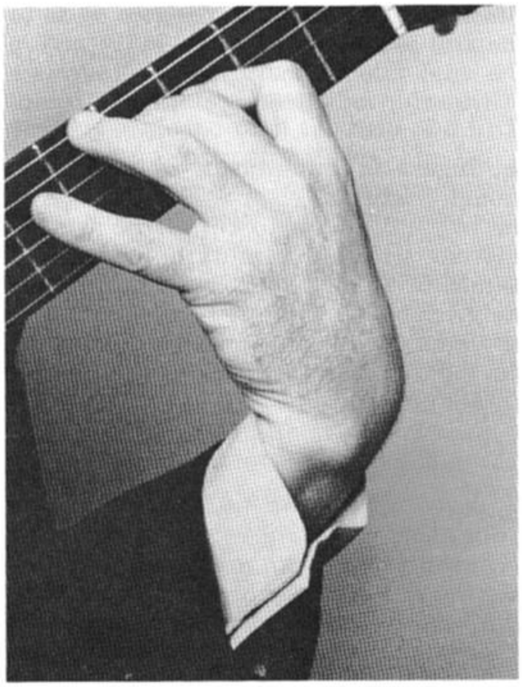


Fig. 5a

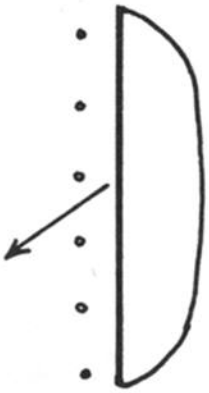


Fig. 5b

3. Slurs By Fijación

It would be convenient to make clear the direct relationship that exists between the velocity and intensity of the slurred note and the use of the different *fijacións*. The simplest slur, straightforward in its mechanics, could require the entire range of resources. With increasing speed and/or dynamic intensity, new muscular associations will little by little offer their participation.

The situation in which a finger transfers the mechanical activity of the slur to the hand is called *slur by fijación*. Not only speed and force call for this type of slur; at times the slur by *fijación* is used because of the mechanical certainty and neatness it affords, and at others because of the ease and minimal effort required to perform it.

In summary, three forms in the mechanics of the descending slurs can be distinguished, these being related to the difficulties encountered within a musical passage.

(1) The slur is effected by the direct action of the finger when this is the easiest solution—normal slur.
(2) The finger performs without *fijación* and the arm is brought forward in its presentation—slur by exception.
(3) The finger, with its phalanges in *fijación*, delegates to the arm and hand jointly the task of performing the slur—slur by *fijación*.

C. MIXED SLURS

These exercises contain both slurs, ascending and descending, and therefore present a mechanical situation involving two attitudes of the finger. Exercise 23, for example, requires the finger to be fairly supple for the first segment (1-2), while for the second (2-1) it should take on the attitude described for descending slurs.

D. TRILLS

These trills (with preparation) require the alternating of two fingers on the same fret. In exercise 35, while finger 2 performs with a normal angular opening, finger 3 is to be relocated (to where the second was) by contraction. Each contraction that is provoked by the hand must be done without affecting the initial longitudinal presentation. When the third finger is to play (by contraction), the second finger is displaced to make room for its partner. A return to the normal disposition by means of the arm permits anew the functioning of finger 2.

There exists a relationship between tempo and this alternation of two fingers in one space, and this has to do with two distinct attitudes of the hand. When this exercise is executed slowly, the mechanics described produce optimum results. At higher speeds, however, a different attitude of the hand is preferable. The hand changes its presentation and avoids the to and fro movement that is likely to produce a loss of control. The two fingers can now be located simultaneously at the same fret (Fig. 6).

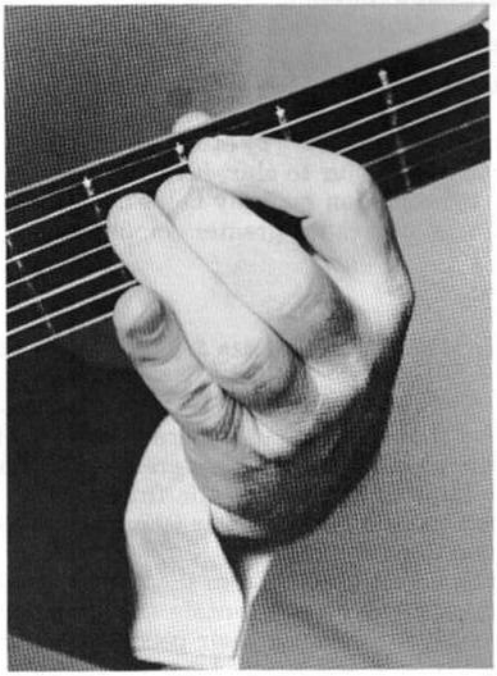


Fig. 6

Both fingers, one normally disposed and the other contracted, are able to play the same note without getting into each other's way. In this manner, the hand does away with its to and fro movement in favor of an oscillating motion directly related to the frequency of the trill. At this stage, the action of the fingers is so light that if the movement of the arm were to be stopped, the slurring would be hardly perceptible, thereby showing that speed and power depend on the attitude of the arm and the hand.

Each type of slur requiring speed or power during a given period of time can be effected through the combined action of finger and arm (the extent of which depends, of course, on the specific situation). Useless and unproductive fatigue can in this way be avoided.

Exercise 35 which should last at least one minute is written in such a way that the slurring gets faster little by little. The measure before the indicated trill should then be repeated ad libitum, gradually increasing the tempo until it takes on the nature of a trill, the mechanics of which have already been expounded.

E. MISCELLANEOUS

Exercises 39-52 (Double Ascending Slurs).

The importance of these exercises lies not only in performing the slur but also in understanding and assimilating the attitude to be adopted by the arm. Each one—in order to favor the disposition and action of the fingers—will demand a different location of the arm.

Exercise 58 (Simple Descending Slurs with Open Strings).

This little study features *slurs by exception*. In spite of the fact that the difficulty may vary from slur to slur, it must be borne in mind that the nature of a slur by exception not only helps avoid rubbing against adjacent strings but also makes for greater comfort and ease in such situations.

Exercise 59 (Descending Slurs with Open Strings Using a Fixed Position).

This, too, is performed as in the previous exercise—by exception. It should be clarified that the mechanics here involve the free movement of the hand and arm, possible only if there are no obstacles or intrusions in the path of the hand as it liberates the finger. Now, therefore, a new difficulty has been introduced into the mechanics of the slur by exception, the obstacle of two fixed fingers.

Special attention should be paid to the triple role of the arm in this same exercise: (a) the arm must maintain the position and disposition of fingers 2 and 3 without affecting their permanent location, when (b) it moves transversally to place 1 and 4 on the indicated strings, and (c) performs the slur by exception which must be effected with total ease in spite of the restriction imposed by the two fixed fingers.

Exercise 62 (Simple Descending Slurs with Open Strings Featuring a Melodic Design by the Thumb).

Two things are to be kept in mind when performing this exercise. One has to do with *how the fingers are disposed* and is a product of the *combined presentation* of the hand: finger 4 is to remain contracted in a natural and stable way. (This same presentation of the hand also applies for Exercise 60.) The other is related to the *movement of the hand and arm* which participate actively in the working of fingers 1 and 4. The descending slurs to open strings can be done with the following mechanisms: finger 1 slurs *by fijación* and finger 4 *by exception,* both of which are necessary if the obstacle of the 1st string is to be avoided.

Exercise 63.

The last example of descending slurs with open strings and fixed fingers requires the application of the mechanism "by exception" in a way that can be labeled *rigorous.*

What is presented here necessitates an attitude of the hand that will differ depending on which of the fingers is being used for the slur. The slurring mechanism and the posterior motion of the finger should not find themselves hindered by the adjacent string. Reference has already been made to the fact that fingers 2, 3, and 4 do not necessarily deserve equal treatment (due to the actual anatomical conformation of the hand and the fingers). Consequently, it would seem appropriate to augment gradually the participation of the arm and the hand in accordance with the respective finger. Specifically, this means that when dealing with finger 2 the support of the hand is minimal, while for the third and even more for the fourth finger, the influence of the hand and the arm needs to be increased in order to level the placement of these fingers and boost the effectiveness of the slurs by exception.

CHAPTER XIV

TECHNIQUE OF THE LEFT HAND (THIRD PART)

A. **DISTENTIONS AND CONTRACTIONS**
Selected Exercises from Cuaderno 4 and some Examples

B. **MECHANICS OF THE SUPPORTING POINT**

A. DISTENTIONS AND CONTRACTIONS

Selected Exercises from Cuaderno 4

Normally, the left hand covers four spaces within its natural range when presented longitudinally. Notwithstanding, within a musical context the case of embracing a greater—or lesser—number of spaces without having to change positions may arise. It would, therefore, be convenient to have available two mechanisms, one for separating the fingers *through distention* or the widening of the range of the hand, and the other for compressing them *through contraction.*

In general, distentions and contractions tend to generate unstable situations when carried out exclusively by the fingers, a task that will now be dealt with in Exercise 65 of Cuaderno No. 4. It involves a distention between adjacent fingers (1 and 2) and can be considered an *elementary* work in that attention is focused on an isolated problem—the work of the finger.

The procedure is as follows: finger 1 remains in its place while finger 2 rises perpendicularly from the fingerboard; once lifted, it effects the distention by describing an arc (towards the next fret) in order to avoid scraping against the string. Done in this way it takes less effort to obtain greater separation and a cleaner execution. All finger displacement should therefore be made *in midair,* i.e., *only after the string has been abandoned.*

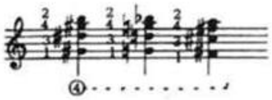
Once the finger releases its tension it tends to return to its natural location. Consequently, it is important to bear in mind that for parting with the string, *any distended or contracted finger should first be lifted in the same condition in which it happens to be. The effort responsible for a distention or contraction must be maintained when initiating the return to the normal location.* Ensuring that the finger behave in this way automatically eliminates the disturbing noises that are a by-product of sliding against the string.

Every distention or contraction made exclusively by the fingers will result in an unstable equilibrium: a constant effort must be resorted to so that the finger can maintain the new situation. This is a state of affairs that can be said to be unnecessarily difficult if in fact another set of simpler mechanics that make use of more suitable means is available. Indeed, it shall be seen that there always exists an associated placement and force that can be made by the hand and the arm to do away with this problem of instability.

The work involved in Exercise 77 will prove that any extreme attitude of contraction or distention leads to a certain instability and vagueness in the concept of *position* of the hand on the fingerboard as presented in Chapter VIII. This exercise has to be performed with the direct participation of the arm since finger 4, which begins from a state of maximum contraction, must be relocated (whilst maintaining finger 1 at the first fret) outside the range of the hand in an attitude of extreme distention.

The section entitled *Distentions and Contractions with Various Fingers* introduces a complex problem which, with the intelligence needed to put together the web of muscles to be employed, is of extreme usefulness for confronting certain works; the muscular associations that result can prove to be vital for the correct execution of the music. This is to say that, while Exercise 65 and related ones presented each element in its simple and isolated form, the *combination of factors* here makes indispensable the employment of specific mechanisms if the outcome is to be easy and constructive.

The first example in this new section is Exercise No. 78 in which the necessity of using the hand-arm motor complex arises. In preparation for this task, let us look at Example 1.



Example 1

These chords are to be translated longitudinally by displacement (up and down in parallel fashion). Just as in diatonic scales, the arm here adopts an attitude that brings the elbow closer to the body. When the hand recedes towards the lower positions the elbow moves outward but the angle formed between the arm and the guitar neck remains somewhat constant (see Fig. 1).

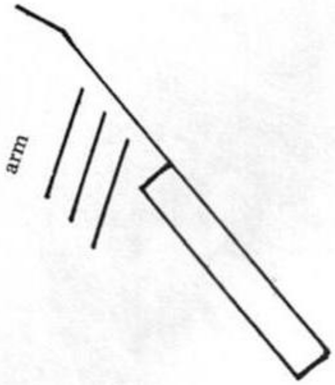
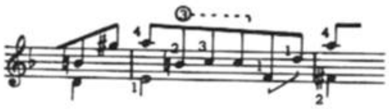


Figure 1

This then is also to be the activity of the arm for Exercise 78. Finger 1 while remaining at the same fret must still permit the translation of the remaining fingers. The ease with which this exercise can be performed depends both on the flexibility of the first finger and on the compliancy of the wrist. The mechanism just discussed will serve equally well in Exercise 79 for which the transversal presentation of the fingers requires, of course, a different attitude of the arm.

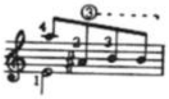
Some Examples

To illustrate further these points some examples have been selected from the fugue in Manuel Ponce's Variations on "Folía de Espana" and Fugue.



Example 2
Distention of 2nd finger

The first and fourth fingers in Example 2 are in a fixed location at the time fingers 2 and 3 are preparing to play on the third string. However, with the hand in longitudinal presentation, fingers 2 and 3 would naturally fall not on the B♮ and C indicated but rather on the A♯and B♮ as in Example 3 (see Fig. 2a).



Example 3

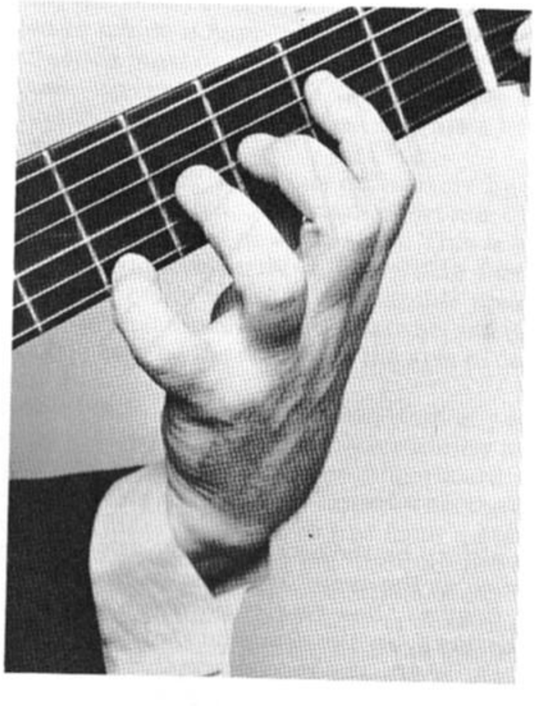


Fig. 2a

In addition to creating an unstable equilibrium, it would be arduous to play what is required if the needed distention of finger 2 were to be effected exclusively on its own. Through a change in presentation the same distention could be provoked without having to rely on the independent effort of the finger (Fig. 2b). Even more, the finger in question must not make any effort at all; on the contrary, *it should allow itself to be taken* and distended by the hand, the disposition of which places it (almost in a relaxed state) at its new fret.

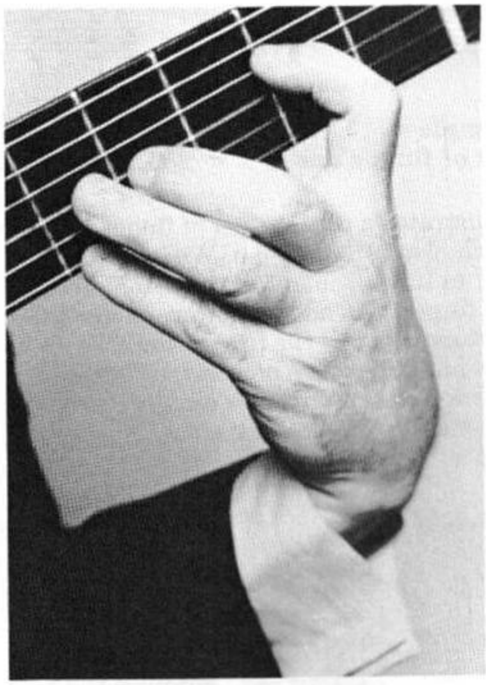


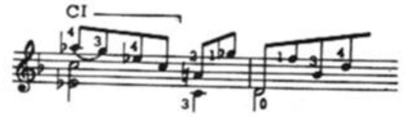
Fig. 2b

The distention thus obtained is *stable* in that even if the pressure of the fingers were to be eased, i.e., even if they were to take on a passive attitude, the induced separation between them would be maintained by the participation of the arm. They would not revert to their natural location as would happen in an unstable situation.

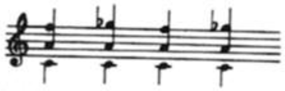
This approach is of such importance that when the work is correctly done through the intelligent employment of the various muscular associations, the hand is able to adopt a vast range of attitudes—contractions, distentions, and combinations between them. This importance is even more apparent when the combined mechanism of arm, hand, and fingers can be marvelled at for its ability to juggle the disposition of the fingers, making them flock together and separate in complex patterns without their actually having to exert any effort to arrive at their different mosaics.

When this level of training has been reached, when intelligence and the muscles are linked by a constant factor, it would then become evident that technique is the culmination of an internalization process that is only obtainable through time. It is this which can transform the difficult and forced into the easy and natural.

The concrete way to understand and assimilate the direct role of the arm in these distentions and contractions is to isolate the problem and then to induce a contraction or distention first with the finger alone and then with the active participation of the arm.



Example 4
Contraction of finger one



Example 5
Exercise for Example 4

Example 4 illustrates a contraction of finger 1, the preparatory exercise for which is shown in Example 5. When acting on its own, it will be seen that finger 1 in its movement to the second fret will be encumbered by the location of finger 2. In addition, were finger 1 to remain on the G♭, the constant effort required by the finger would be awkward, although in this very example not difficult. When the arm, however, is called upon to participate, a change of presentation employing finger 2 as a pivoting point takes place, making possible the effortless displacement and relocation of finger 1 (Figs. 3a and b).

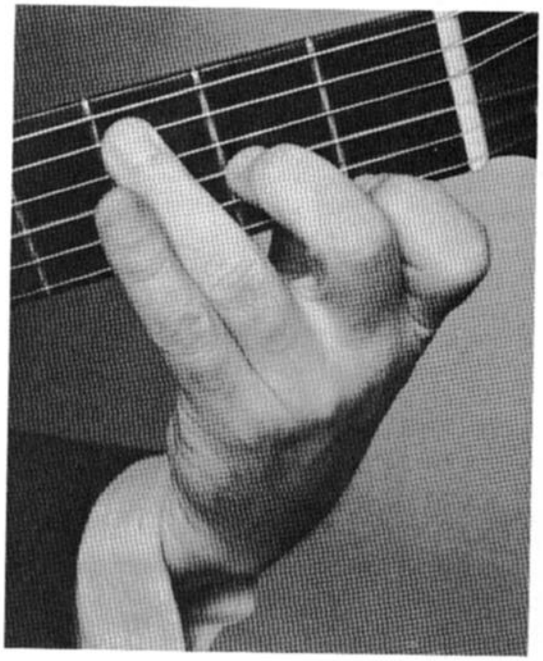


Fig. 3a

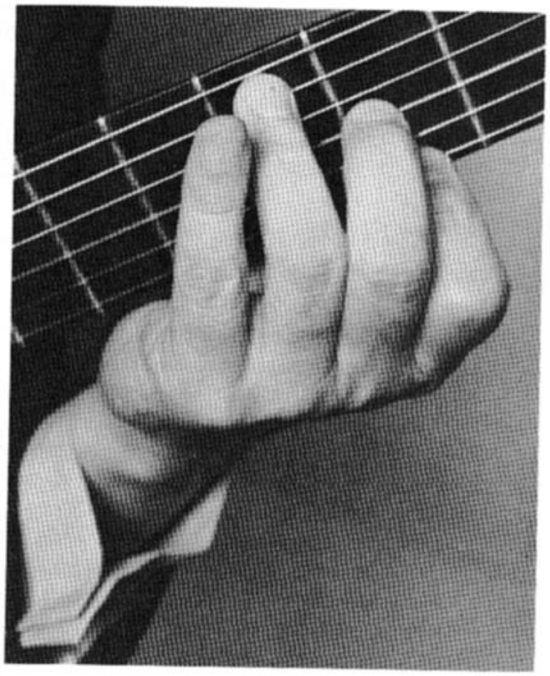
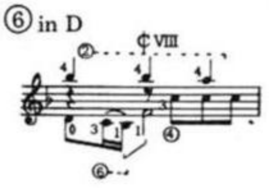


Fig. 3b

Finger 4 in Example 6 can be contracted with greater liberty by changing from the longitudinal presentation that appears at the beginning of the measure (Fig. 4a) to a combined presentation that allows the finger in question to go from B♭ to A (Fig. 4b).



Example 6
Contraction of finger 4

The activity of the finger is a passive one because, just as in the preceding cases, it is the arm that induces the desired contraction.

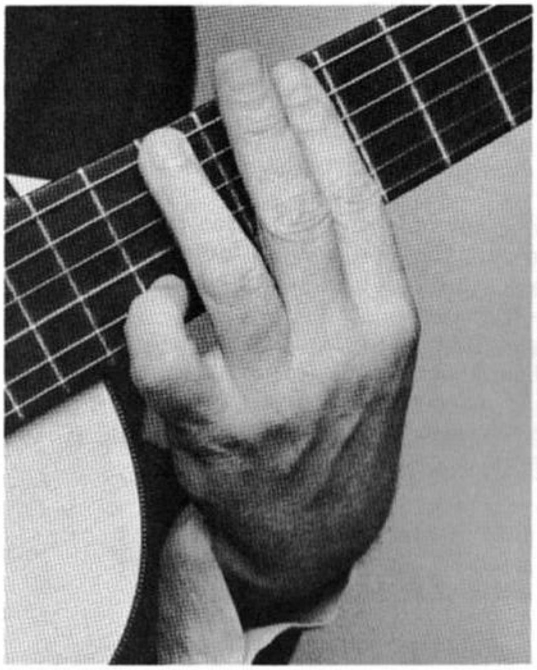


Fig. 4a

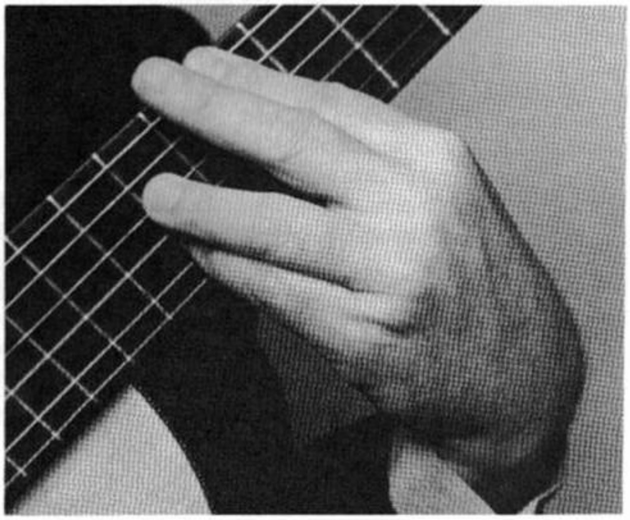


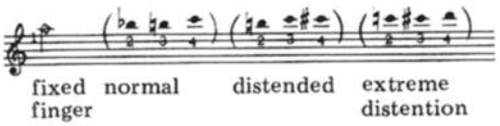
Fig. 4b

B. MECHANICS OF THE SUPPORTING POINT (MSP)

Consider the following examples.

The first (Example 7) deals with the increase of the angular opening (distention) between finger 1 and the remaining three fingers.

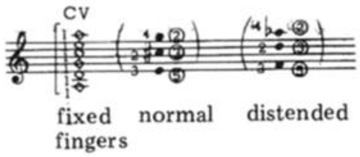
Example 7



Procedure. The arm translates the hand longitudinally using finger 1 as a point of contact with the fingerboard, the thumb being displaced accordingly.

Now a similar setting is presented, but this time the first finger makes a barré (Example 8).

Example 8

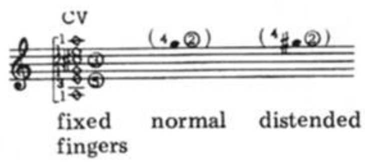


Procedure. As in the previous example, the distention of the three fingers can be provoked by the longitudinal translation of the hand. Although the fixing of finger 1 in barré fashion offers greater resistance than before, the separation of the remaining fingers can still be made with ease. Attention should be paid to the thumb which in part also obeys the movements of the arm.

Example 9, however, involves having not only one but three fixed fingers. The distention of the only free one, finger 4, *can no longer be effected in the same way.* There are two possibilities left, one of which is the direct use of the finger completely on its own.

The other is the *Mechanics of the Supporting Point* (MSP), a means by which one or more fingers on the fingerboard serving as a *leaning point* or *fulcrum* enables the arm to function as a *lever of the first type.* This mechanism allows the distention or contraction of the finger(s) that is (are) not stationed to be effected with greater ease.

Example 9



Procedure. The fulcrum is here provided by the fixed fingers 1, 2, and 3. The *distention* of finger 4 is made possible without recourse to the longitudinal translation of the hand—the arm, in acting as a lever, separates the elbow from the body (Fig. 5a). The opposite, when the elbow approaches the body, would, of course, cause the contraction of finger 4 (Fig. 5b).

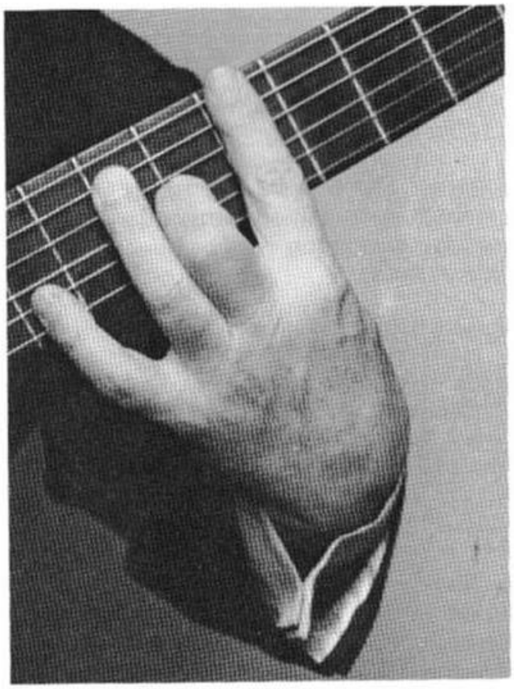


Fig. 5a

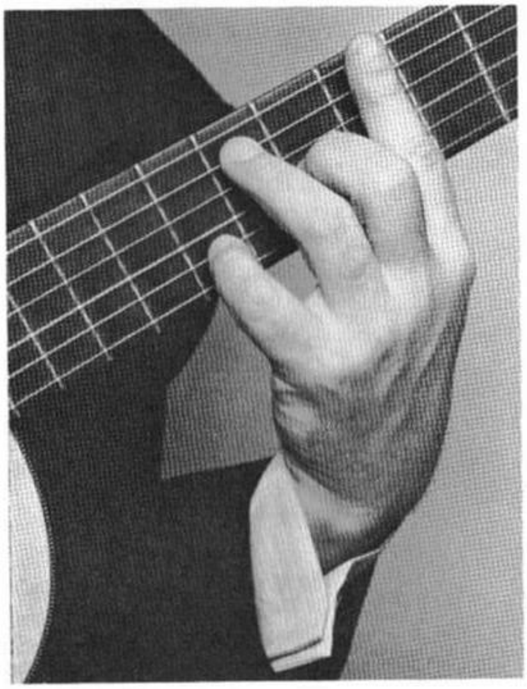
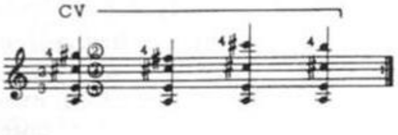


Fig. 5b

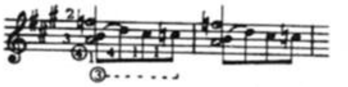
What follows is a simple exercise (Example 10) that should be incorporated into one's work, taking into account the preceding concepts. The arm should participate actively, the movements made being slow and generously large.



Example 10
Distention and Contraction using MSP

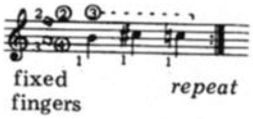
It should be clarified that this very same Mechanics of the Supporting Point will serve not only for certain distentions and contractions—various translations which prove to be quite difficult in certain musical passages will definitely require this mechanism. Some musical examples should shed more light on this.

Example 11
Frederico Moreno-Torroba, ***Nocturno***



In Example 11, it is clear that while fingers 2 and 3 should remain stationary (fixed) on the second and fourth strings, respectively, finger 1 must be successively placed on three different frets, causing it to be distended and contracted for its lowest and highest notes.

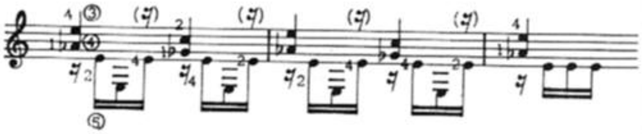
Example 12
(Exercise for Example 11)



The exercise in Example 12, in which fingers 2 and 3 serve as a supporting point, illustrates that a movement of the arm towards the body can induce a distention of the first finger; the contrary motion, that of moving away from the body, induces its contraction.

In the following extract taken from the same work, the change of position at a fast tempo requires an adequate mechanical solution if all the notes are to be heard clearly.

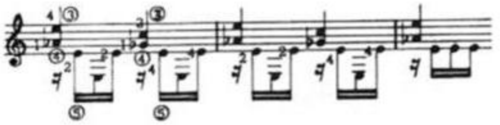
Example 13a
Federico Moreno-Torroba, ***Nocturno***



The fingering suggested in Example 13a involves a *total translation by substitution* (between fingers 2 and 4 on the fifth string). This solution is favored by *anticipating* the change of position, even at the expense of sacrificing a part of the full value of the quarter notes.

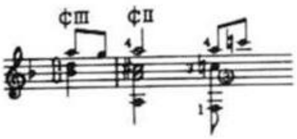
A slight variation in the fingering (Example 13b) allows MSP to come into play. Here it is the thumb that acts like a *fulcrum*. The arm conjointly with the forearm performs a combined movement that makes possible the change of position through what is actually a *partial translation*. It might be noted that although the first fingering given provides a reasonable outlet for avoiding any rubbing against the string, the second, when managed correctly (i.e., with MSP) remains, nevertheless, the more adequate of the two.

Example 13b



The shift from ₵ III to ₵ II in Example 14 also employs the thumb as a supporting point for a partial translation; the elbow in moving towards the body enables finger 1 to separate from finger 4 facilitating its new location (₵ II). The arm takes care of the following change, too: with finger 4 (on the A of the first string) now serving as the fulcrum, fingers 1 and 3 are placed on the 6th and 3rd strings, respectively.

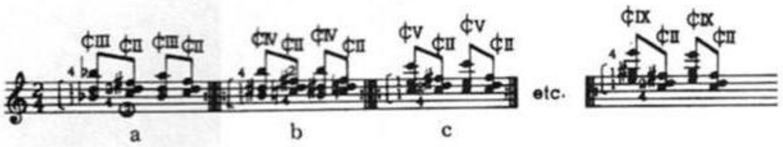
Example 14
Sanz-Carlevaro, *Pavana*



In the preceding examples, various aspects of MSP have been analyzed. In each case one or more fingers on the fingerboard or the thumb on the back of the neck were used as points of support. Nevertheless, exceptional cases in which the supporting point can be *transferred* to the very arm do exist. This variant will prove to be not only quite useful but even essential for jumps that require an agility and swiftness that are as fluent as they are subtle and with the minimum expenditure of energy. Of greater importance, however, is the certainty with which precision in the jump can be obtained.

An example written on the spot will serve to illustrate the timeliness of this mechanism.

Example 15



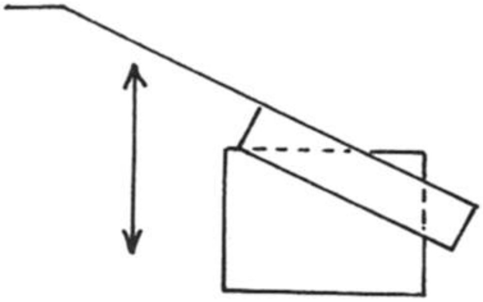
In *a* (Example 15), the change from positions III to II can be made equally well with a total or a partial translation. In the former, the arm as well as the thumb accompanies the back and forth movements; with a partial translation, the thumb (as in Examples 13b and 14) serves as a fulcrum that permits the arm to move as if it were a lever of the first type (MSP). Similarly, the situation in *b* can benefit from the supporting point of the thumb although the leverage given by the arm to effect the translation from the 4th to the 2nd position involves greater movement.

In c, the situation demands that the point of support, *which can no longer be the thumb,* be displaced towards the articulation of the shoulder.

Procedure. The movement consists of three simple elements that are integrated into a single combination.

(a) The arm makes a to and fro movement (forwards and backwards) parallel to the body (Fig. 6).

Fig. 6



(b) The forearm turns leftward using the elbow as an axis that permits the hand to be situated at different positions. The motion of the hand away from the body caused by this pivoting is to be coupled with the forward movement of the arm. Likewise, as the arm retreats, the forearm readopts its normal location and permits the hand to be placed at higher positions.

(c) The wrist plays the important role of controlling and rectifying the presentation of the hand on the fingerboard (see Figs. 7a and b).

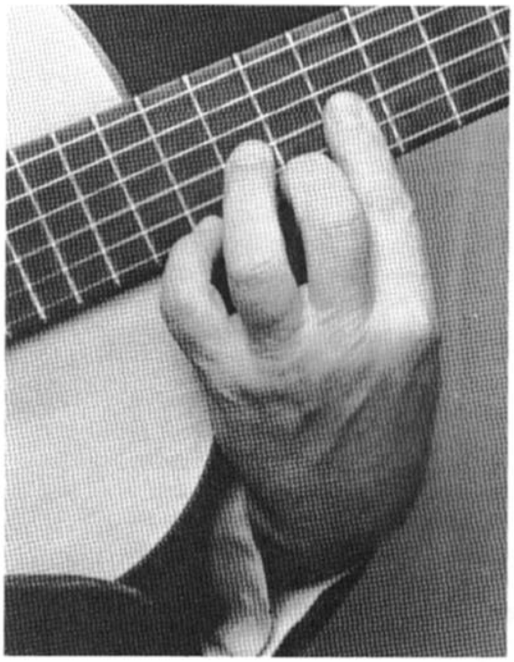


Fig. 7a

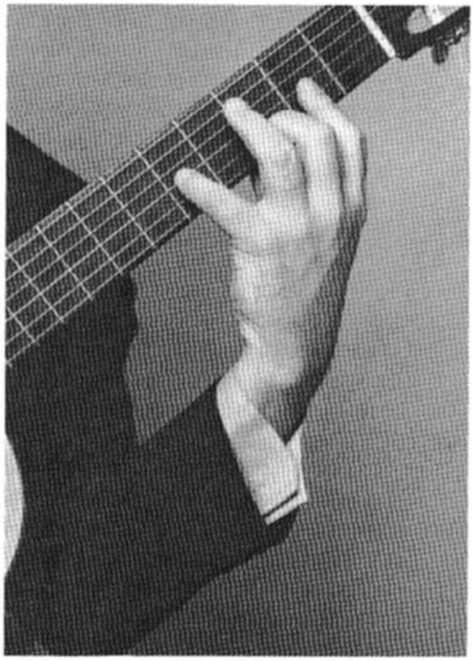


Fig. 7b

The lifting of the fingers (Chapter VII) and their displacement over the fingerboard in an arc-like fashion are a natural consequence of the same movement of the arm, avoiding making the shift on the string itself.

In Cuaderno 4, Exercises 80 to 84 inclusive should be played taking into account the material discussed regarding distentions and contractions as well as MSP.

In conclusion, it should be made clear that the *choosing* of a given movement for each isolated problem depends entirely on the guitarist, in the final analysis the person directly responsible for good or deficient playing. If the material is assimilated by relying on a clumsy and machine-like memory rather than through a process of mental identification, all the information presented up to this point would be sterile and negative.

CHAPTER XV

APPLIED THEORY

There are two factors to be considered when wishing to render a musical work. Of a general nature, one is directly linked to the music, to its formal structure. The other is more particular and relates to mechanical possibilities. Both of these play an equally vital part in converging towards the recreating of the music.

This chapter has been included for the sole purpose of analyzing a few examples drawn at random from the guitar literature. It does not pretend to be all-inclusive, but it is hoped that the mechanical solutions proposed will serve to give greater insight into what is meant by *Applied Theory*.

A musical piece can prove difficult and impractical, or easy and accessible, depending on the *fingering* selected and the *subsequent mechanics used*. Fingering, its details and application, involves such subtleties that one could be led hopelessly astray without a true consciousness, without an instrumental framework to enhance as well as comply with a work intelligently and efficiently.

As a general rule, the instrumentalist relies entirely on his (or her) fingers in a way that totally dissociates them from the hand-arm motor apparatus. A beginner whose technique is still poor can often be seen employing (almost always) those fingers better constituted by nature, making little use of the weaker ones since they cannot successfully compete in every passage. When a player has a little better technique, he will attempt to use all of his fingers in spite of the fact that some of them are naturally less competent. From this can be inferred that the choice of which finger(s) is used is intimately related to the gradual development of one's *awareness of the muscular mechanism*. So certain is this that it can be affirmed that a good technique is incompatible with a bad fingering. In fact, a truly effective and valuable fingering must incorporate the intelligent participation of the fingers with the arm-hand muscular system.

He who has read the preceding chapters with care will be able to understand that fingering (i.e., those numbers and letters on the score that indicate the fingers of the left and right hands to be used) offers a basic mechanical interpretation, one that can be productive only when coupled with a set of values in which one's acquired wisdom converges with the entire motor complex (fingers, hand, and arm).

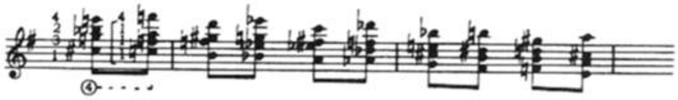
MUSICAL EXAMPLES

Hector Villa-Lobos, Study No. 6

The opening chord of this study presents the opportunity to apply the *twin-stroke* of the thumb (Chapter IV, Section G), that attack beginning with the flesh and terminating with the nail (here, on the 1st string). This stroke makes it possible, on the one hand, to use a mass of sound as a dynamic effect, and on the other, to give the required presence to the E of the 1st string, the only one to be struck by the nail. As for the remainder of the chords throughout the piece, they can be played by employing what has been called *unity through contact* (Chapter VI).

The following modulating progression in Example 1 will be easier to play by alternating between longitudinal and transversal presentations of the left hand.

Example 1

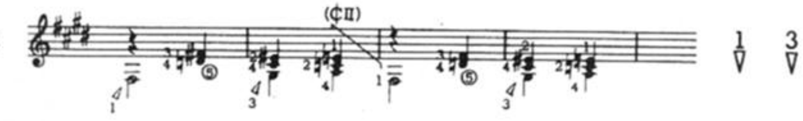


The rotation of the hand when changing to longitudinal automatically displaces finger 4 upwards to the next fret. Consequently, the fingers need not undergo any effort since their placement on the fingerboard is taken over by the arm.

Hector Villa-Lobos, Study No. 8

The extract in Example 2 requires the use of *pivot fingers* 1 and 3 for making the chord changes without detracting from the value of the half notes. (Incidentally, this also does away with unnecessary noises.)

Example 2

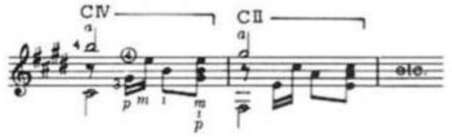


Procedure. Finger 1 (F♯ of the 6th string) in working as a pivot permits the hand to rotate and place the fingers on the first chord of the following measure. In its turn, finger 3 (on the G♯) fulfills the same function by allowing the hand to pivot anew for the coming chord. The pivot finger can be conveniently notated with the sign ▽ (as in the example), in order to indicate that a change of presentation might take place and that the corresponding note is to be held in spite of the rotation of the hand.

The precautionary dampers that were discussed in Chapter X will come in very handy in this and similar passages and should be employed at precisely the moment that the fingers abandon the strings to change their location. (In this particular case, the R.H. index and middle fingers serve as dampers.)

The ₵ II directs the player to use a half-barré that bridges the E (finger 1) of the 4th string with the coming F♯ of the 6th string, thereby doing away with the otherwise necessary transversal jump. It is written in between parentheses because, strictly speaking, it does not fulfill the function of a barré. It might be added that as this F♯ is played, the hand advances slightly forward just enough to free the barré, leaving finger 1 on this note only.

Example 3



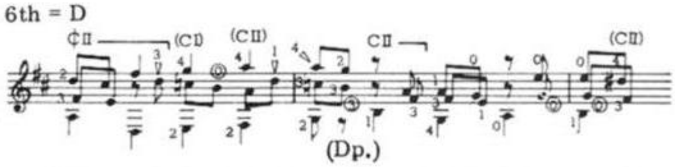
These and the following measures make it possible to use different *toques* to differentiate one plane from another (Example 3). Thus, the focus of attention is now centered upon the right hand which is to take charge of highlighting the soprano voice (annular finger) by separating it from the other parts that are fulfilling a rhythmic and harmonic function on a lower plane—and this without having to rely on differences in dynamics.

With regard to the opening bars, it would be appropriate to use *toque* 5 in its version "clear" (*claro*) for the melody and *toque* 1 (*libre*) for index, middle, and thumb. By keeping each element in its own plane, interference between the singing quality of the annular and the homogeneous timbre in the accompaniment will be avoided. As the piece progresses, the ensuing increase in dynamic level calls for the converting of *toque* 5 into the *variant of toque 1 as a singing element* (both of which have been discussed extensively in Chapter V). This allows the annular to produce greater volume without obstructing the subordinate work of the other fingers.

J. S. Bach, Fugue (from the Prelude, Fugue, and Allegro BWV 998)

From amongst the wealth of masterpieces produced through the genius of Johann Sebastian Bach, the following example offers a series of interesting elements. When analyzed, they can help one to understand better and *interpret* more faithfully the indicated fingering.

Example 4



In the first measure of Example 4, with finger 3 on the D of the second string acting like a pivot ($\overset{3}{\bigtriangledown}$), the Mechanics of the Supporting Point (MSP) allows the (CI) and fingers 4 and 2 to be located at their respective places without their having to make any effort of their own. Just as in Example 2, the barré proposed (CI) is placed in between parentheses because of its unorthodox function—here it facilitates the playing of the C♮ of the 2nd string (1st fret).

Procedure. Pivoting on the third finger, the arm makes a forward and upward movement that favors the transversal displacement of finger 2 to the E of the 6th string (second fret). Of course, this movement affects the other fingers, too: the 4th will fall exactly on the third fret of the first string (the note G); and the 1st, in being transferred by the arm, allows for the most convenient manner to play the C of the 2nd string—a barré that does away with any unnecessary tensing up of the finger and any interference with the movement of the hand.

The unusual use of the barré warrants further explanation. As the stopping of a note on the guitar always involves the simultaneous consideration of *two coordinates*—a point on the longitudinal determines the semitone (fret) and on the transversal the string—this use of a barré does away with one of these.

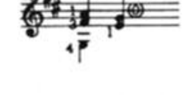
This exceptional barré-like attitude of the finger is also useful for playing certain harmonics. Done with greater ease and certitude, more attention can be paid to the precision of the longitudinal if the transversal one is disregarded. Obviously, performing harmonics in this way only requires lightly touching the string with any part of the inner side of the finger.

The (C II) placed over the last beat of the first measure has two objectives. Firstly, it allows the A of the 3rd string to be played in a way similar to the previous case for (CI); secondly, it acts as a damper (Dp) that puts an end to the B of the open 2nd string. Immediately afterwards, a retreating downward movement of the arm facilitates the transversal displacement of finger 1 towards the D of the 2nd string. This same finger ($\overset{1}{\triangledown}$) becomes then a pivot for the presentation change (from longitudinal to transversal) that conveniently permits the placement of the remaining three fingers on the fifth fret of the 6th, 3rd, and 1st strings.

Fingers 3 and 2 can now be placed on the B of the 3rd and the G of the 1st strings, respectively, with the aid of the pivoting action of finger four ($\overset{4}{\triangledown}$) located on the A of the 1st string. The fingers can be lifted to effect this change without sounding the open 6th string: the R.H. thumb (Dp) lightly touches that string at precisely the same moment.

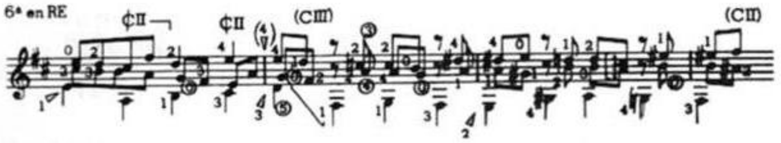
Looking at the third beat of the second measure (see extract below), a small forward and upward movement of the hand achieves the following two purposes: (a) the removal of fingers 1 and 3 from the fingerboard, and (b) the later placement on the 4th string of finger 1 at the same time ensuring (because the hand has been lifted) the sounding of the open G string.

Extract from Example 4



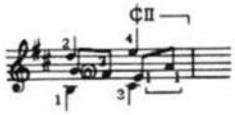
Finally, the (C II) that appears at the very end of Example 4 performs as a damper that prohibits the harmonic superimposition of the two intervals G-E and F♯- D♯.

Example 5



The beginning of the first measure of Example 5 shows finger 1 behaving like a pivoting point on which a presentation change is made from transversal to longitudinal. This places finger 2 first on the C♯ and then, after lifting it, on the D. The half-barré, ₵ II, is the result of a slight retreating movement of the arm.

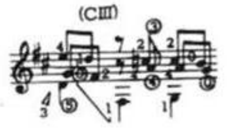
Extract *a* from Example 5



The first chord in Extract *a* is obtained with the exclusive use of the arm. Moving upward and forward to displace finger 1 to the B of the 5th string, it avoids any interference with the ringing open G string. The following ₵ II is made possible again with a movement of the arm, this time backwards; when combined with a slight rotation of the hand, finger 3 can be displaced from the 4th to the 5th string.

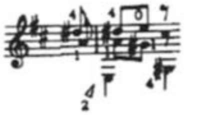
Turning back to Example 5, the transition from the first to the second measure can be smoothly obtained by going into a transversal presentation for placing fingers 3 and 4 at the fifth fret: the already located finger 4 should be permitted to function as a pivot ($\overset{4}{\triangledown}$ on the E of the 2nd string). Finger 3, rather than making an unnecessary distention, can thus be translated over and above (rather than sliding on) the string—without any effort of its own.

Extract *b* from Example 5



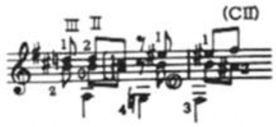
Rotating the arm by employing $\overset{3}{\triangledown}$ yields the (C III) indicated in Extract *b* and this has two functions that occur successively: the first enables the D of the 2nd string to be played; the second permits the first finger to arrive at the 6th string thus preparing the coming F♯ (translation by displacement from Positions III to IV). The following translation of finger 1 from F♯ to G is effected (again over and above the string to avoid squeaking) with MSP.

Extract *c* from Example 5



The employment of MSP is so varied in its application that it can be seen again when placing finger 2 on the E of the 6th string at the commencement of the new measure. Both fingers 1 and 4 act as pivoting points (see Extract *c)*. Immediately afterwards, a change of presentation is effected with $\overset{2}{\triangledown}$ (on the E of the 6th) to place finger 1 on the G♯ of the third string.

Extract *d* from Example 5



In Extract *d*, the translation from Position III to II is done by substituting fingers 2 and 1 with fingers 3 and 2, respectively. The following distention of finger 1 towards the E♯ of the first string makes use of MSP by relying on finger 4 (sixth string). Example 5 terminates with a (C II) which is also arrived at with the same mechanism, this time of course by using finger 3 (F♯) as the supporting point.

It is admirable that after more than two centuries, and in spite of the important instrumental and technical transformations that have been taking place in recent times, this genius of a composer continues to stand as a model. Should it be surprising then that our concept of technique must be in constant revision if it is to be brought up to the stature which music of this type exacts?

Were a first reading of this chapter to appear somewhat barren, it might be pointed out that greater possibilities with respect to a host of mechanical elements—in sum, one's technique—are open to the more observant reader. It is at a more opportune moment, when a fuller understanding is obtained of what is truly instrumental theory, that the stage would be set for grasping with deeper insight what is impossible for the written word to express.

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